THE CAROLINA JOURNAL OF PHARMACY

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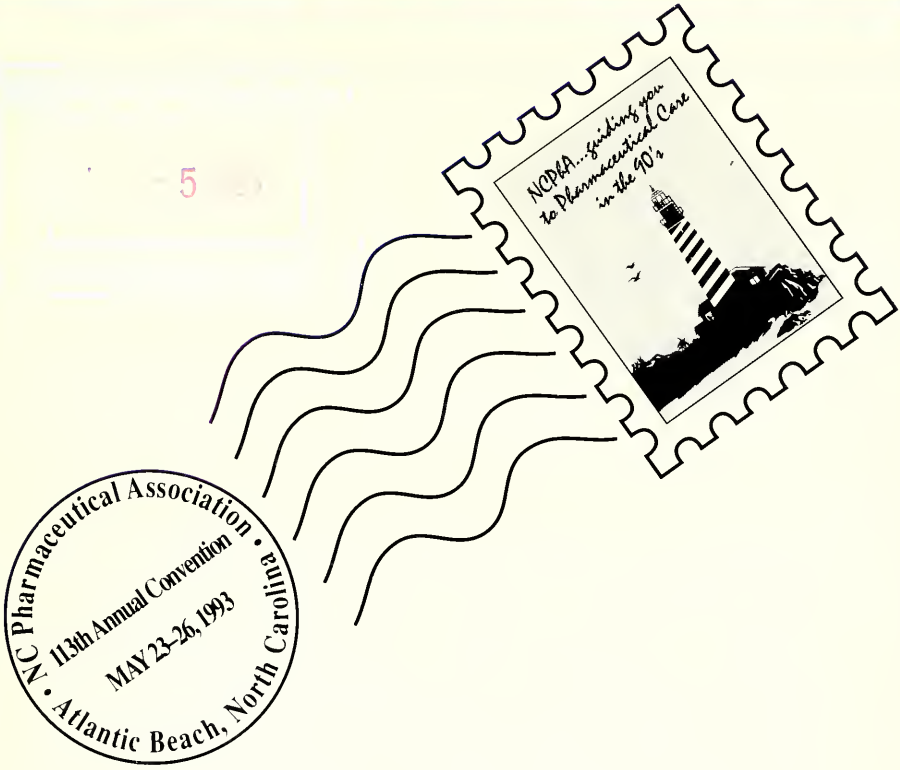
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NC Pharmaceutical Association
113th Annual Convention
MAY 23-26, 1993
Atlantic Beach, North Carolina

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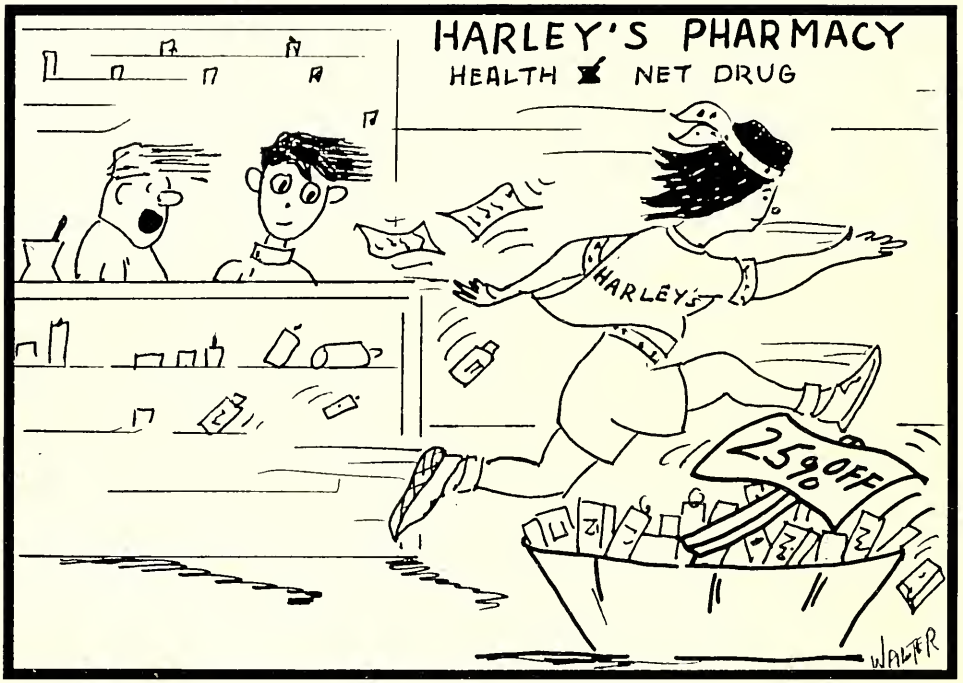
See page 7



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RETAIL DRUGGISTS' CHAPTER CHARTERED AT CAMPBELL

The Campbell University School of Pharmacy chartered a student chapter of NARD—the national association representing independent retail pharmacy, on January 20, 1993. The installation program included Joseph K. Bonnarens, R.Ph., director, NARD Student Affairs; Al Mebane, executive director, North Carolina Pharmaceutical Association (NCPhA), Johnny Hogg, R.Ph., co-chair, NCPhA Committee on Retail Community Pharmacy; Robert Crocker, R.Ph., president, North Carolina Association of Retail Community Pharmacy; and Dr. Ronald Maddox, dean, Campbell School of Pharmacy.

Also present were independent pharmacists from across the state and North Carolina Board of Pharmacy members Jack Watts and Whitaker Moose, who is also a member of the NARD Board of Directors. Following a luncheon hosted by the School of Pharmacy, vital issues facing independent community pharmacists were addressed in a panel discussion led by Larry Thomas, J.B. Clay, Whitaker Moose, Joseph Bonnarens, Tom Burgess, Robert Crocker, Johnny Hogg, and Al Mebane.

Chapter officers presided over the program and lunch and moderated the panel discussion. The first officers of the Campbell University chapter of NARD are Virginia Clay, president; Paige Thomas, vice-president; Ashley Riggan, secretary; Neil O'Neil, treasurer; and Dr. Jim Boyd, Pharm.D., advisor.

Dean Maddox said, "I firmly believe that through the establishment of this NARD chapter we can better prepare our students to meet their future challenges in retail pharmacy practice. I challenge the founding students to set standards for others to follow and to commit themselves to the service of their fellow men."

The student chapter was formed to promote community pharmacy practice and to address pharmaceutical care and political issues.

Assisting with the chartering of the Campbell University School of Pharmacy chapter of NARD were, *left to right*, Whit Moose, Joseph Bonnarens and Al Mebane.

REPORT OF THE ETHICS, GRIEVANCE & PRACTICE COMMITTEE MARCH 5, 1993

The Ethics, Grievance and Practice Committee of the North Carolina Pharmaceutical Association met in February and March to standardize policies and procedures and to determine objectives and goals. A major accomplishment was the development and publication of the procedures of the Ethics, Grievance and Practice Committee.

The committee initiated continual communication with the Board of Pharmacy. Records of final disciplinary actions of the Board will be sent to the NCPhA office and reviewed by the Ethics, Grievance and Practice Committee.

The committee was informed that some members had not subscribed in writing to the Professional Code of Ethics. A letter was sent to these individuals asking for their signatures.

The committee encourages the future Ethics, Grievance and Practice Committee(s) to continue their efforts in following the procedures. We, as pharmacists, want the Code of Professional Ethics to be an integral part of the Association.

Respectfully submitted,
Sarah B. Cobb, Chairman, NCPhA Ethics Grievance & Practice Commitee

PROCEDURES OF THE ETHICS, GRIEVANCE & PRACTICE COMMITTEE

1. When reports of final actions of the Board of Pharmacy are received in the NCPhA office, the staff will identify the NCPhA member(s). Copies of the Board of Pharmacy reports will be sent to each committee member. The original copy shall be maintained in the Ethics, Grievance and Practice Committee file.

2. The committee shall make a decision whether or not disciplinary action will be taken.

3. As stated in the Constitution and Bylaws (Article III–Section 3): If an active member of the NCPhA is in violation of the obligations of the Code of Professional Ethics of the NCPhA, they shall be reprimanded, suspended, or expelled from membership.

4. The Ethics, Grievance and Practice Committee has the option of asking the member to appear before the committee.

5. A letter explaining the committee's action shall be sent to the member by registered mail.

6. As stated in the Constitution and Bylaws (Article III–Section 3): All decisions of the Ethics, Grievance and Practice Committee shall be final unless appealed by the member to the Executive Committee within sixty (60) days from the date on which the member received notification of the decision of the Ethics, Grievance and Practice Committee.

ALLEN ELECTED TO TWO PROFESSIONAL BOARDS

Robert J. Allen, R.Ph., M.S., Chief, Pharmaceutical Services for the NC Division of Mental Health Developmental Disabilities and Substance Abuse Services, has been elected to the board of the NC Foundation of Mental Health Research. The foundation promotes and recognizes excellence in both public and private mental health research in NC.

Allen has also been elected to the board of directors of the NC Substance Abuse Professional Certification Board for a three year term. This board is responsible for establishing standards for professional practice in the alcohol and drug abuse services delivery system, as well as the certification of Substance Abuse Counselors that work in NC.

TWO LANDMARK STUDIES,[1,2]
PRESENTED AT THE
1992 AMERICAN COLLEGE OF
CARDIOLOGY MEETING,

FINALLY RESOLVED

A 200-YEAR-OLD CONTROVERSY...

LANOXIN IS EFFECTIVE IN CONGESTIVE HEART FAILURE PATIENTS IN NORMAL SINUS RHYTHM, WITH OR WITHOUT AN ACE INHIBITOR.[1,2*†]

*The RADIANCE—Randomized Assessment of Digoxin on Inhibitors of the ANgiotensin Converting Enzyme—study was a multicenter, randomized, double-blind, placebo-controlled study of digoxin in CHF patients receiving diuretics *and* ACE inhibitors.

†The PROVED—Prospective Randomized study of Ventricular failure and the Efficacy of Digoxin—study was a multicenter, randomized, double-blind, placebo-controlled study of digoxin in CHF patients receiving diuretics.

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Please see brief summary of prescribing information below.

LANOXIN® (DIGOXIN) TABLETS

Before prescribing, physicians should be thoroughly familiar with all aspects of this cardiac (or digitalis) glycoside as discussed in the full prescribing information.

Brief Summary

CONTRAINDICATIONS:
(1) ventricular fibrillation, (2) an untoward effect requiring discontinuation of other digitalis preparations, and (3) a hypersensitivity or allergy to digoxin.

WARNINGS: The use of digoxin for the treatment of obesity is dangerous since it may cause potentially fatal arrhythmias. Anorexia, nausea, vomiting and arrhythmias may be indications of digitalis toxicity, if so, digoxin should be temporarily withheld when possible. Patients with renal insufficiency require smaller than usual maintenance doses of digoxin. Heart failure accompanying acute glomerulonephritis requires extreme care in digitalization and careful monitoring. Relatively low loading and maintenance doses and concomitant use of antihypertensive drugs may be necessary. Digoxin should be discontinued as soon as possible in this setting. Patients with severe carditis are especially sensitive to digoxin-induced rhythm disturbances. Newborn infants display considerable variability in their tolerance to digoxin with premature and immature infants being particularly sensitive, reduce and individualize dosage accordingly. Note: Digoxin is an important cause of accidental poisoning in children.

PRECAUTIONS: Digoxin toxicity develops more frequently and lasts longer in patients with renal impairment because of the decreased excretion of digoxin. Normal potassium and magnesium levels should be maintained in patients treated with digoxin. Calcium, particularly when administered rapidly by the intravenous route, may produce serious arrhythmias in digitalized patients. Hypercalcemia predisposes the patient to digitalis toxicity, whereas hypocalcemia can cause digoxin to become ineffective. Patients with acute myocardial infarction or severe pulmonary disease may be unusually sensitive to digoxin-induced rhythm disturbances. Atrial arrhythmias associated with hypermetabolic states are particularly resistant to digoxin treatment. Large doses of digoxin are not recommended as the only treatment of these arrhythmias, if large doses are required, be careful to avoid toxicity. In hypothyroidism, digoxin requirements are reduced. Reduction of digoxin dosage may be desirable before electrical cardioversion to avoid induction of ventricular arrhythmias. If digitalis toxicity is suspected, elective cardioversion should be delayed. Patients with incomplete AV blocks may progress to advanced or complete heart block when given digoxin, especially in patients with Stokes-Adams attacks. Digoxin may worsen sinus bradycardia or sinoatrial block in patients with sinus node disease. Digoxin may cause rapid ventricular rates and ventricular fibrillation in patients with Wolff-Parkinson-White Syndrome and atrial fibrillation. Because it may worsen the outflow obstruction in patients with idiopathic hypertrophic subaortic stenosis (IHSS), digoxin should only be used in severe cardiac failure in this setting. Patients with chronic constrictive pericarditis may fail to respond to digoxin. Slowing of the heart rate by digoxin in some patients may further decrease cardiac output. Patients with heart failure from amyloid heart disease or constrictive cardiomyopathies respond poorly to digoxin. (See DRUG INTERACTIONS section.)

Laboratory Tests Serum electrolytes and renal function should be assessed periodically.

Drug Interactions Potassium-depleting *corticosteroids* and *diuretics* may be major contributing factors to digitalis toxicity. *Calcium*, particularly if administered rapidly by the intravenous route, may produce serious arrhythmias in digitalized patients. *Quinidine, verapamil, amiodarone,* and *propafenone* cause a rise in serum digoxin concentration, with the implication that digitalis intoxication may result. Certain *antibiotics* increase digoxin absorption in patients who inactivate digoxin by bacterial metabolism in the lower intestine, so that digitalis intoxication may result. *Propantheline* and *diphenoxylate*, by decreasing gut motility, may increase digoxin absorption. *Antacids, kaolin-pectin, sulfasalazine, neomycin, cholestyramine,* certain *anticancer drugs* and *metoclopramide* may reduce intestinal digoxin absorption, resulting in unexpectedly low serum concentrations. There have been inconsistent reports regarding the effects of other drugs on the serum digoxin concentration. *Thyroid* administration to a digitalized, hypothyroid patient may increase the dose requirement of digoxin. Concomitant use of digoxin and *sympathomimetics* increases the risk of cardiac arrhythmias because both enhance ectopic pacemaker activity. *Succinylcholine* may cause a sudden extrusion of potassium from muscle cells, and may thereby cause arrhythmias in digitalized patients. Although ß adrenergic blockers or calcium channel blockers and digoxin may be useful in combination to control atrial fibrillation, their additive effects on AV node conduction can result in complete heart block.

Carcinogenesis No long-term animal studies have been performed to evaluate carcinogenic potential.

Pregnancy: Pregnancy Category C. Animal reproduction studies have not been conducted with digoxin. Digoxin should only be given to a pregnant woman if clearly needed.

Nursing Mothers Studies have shown that the digoxin concentration in the mother's milk is far below the usual infant maintenance dose and should have no pharmacologic effect upon the infant. Nevertheless, caution should be exercised when digoxin is administered to a nursing woman.

ADVERSE REACTIONS The overall incidence of adverse reactions has been reported as 5 to 20%, with 15 to 20% (1 to 4% of all patients) of them being considered serious. Evidence suggests that the incidence of toxicity has decreased since the introduction of the serum digoxin assay and improved standardization of digoxin tablets. Cardiac toxicity accounts for about one-half, gastrointestinal disturbances for about one-fourth, and CNS and other toxicity for about one-fourth of these adverse reactions.

Adults: ***Cardiac***—unifocal or multiform VPCs, ventricular tachycardia, AV dissociation, accelerated junctional (nodal) rhythm and atrial tachycardia with block; excessive slowing of the pulse, AV block (Wenckebach) of increasing degree may proceed to complete heart block.

Gastrointestinal: anorexia, nausea, vomiting, occasionally diarrhea, and very rarely hemorrhagic necrosis of the intestines and abdominal pain.

CNS: visual disturbances, headache, weakness, dizziness, apathy and psychosis.

Other gynecomastia.

Infants and Children: Anorexia, nausea, vomiting, diarrhea and CNS disturbances may be present but are rare as initial symptoms in infants. Cardiac arrhythmias are more reliable signs of toxicity. Digoxin in children may produce any arrhythmia. Most common are conduction disturbances or SVTs, such as atrial tachycardia with or without block, and junctional (nodal) tachycardia. Ventricular arrhythmias are less common. Sinus bradycardia may also be a sign of impending digoxin toxicity, especially in infants, even in the absence of first degree heart block.

September 1991 542253

PLEASE CONSULT FULL PRODUCT INFORMATION BEFORE PRESCRIBING

References: 1. Packer M, Gheorghiade M, Young JB, et al. Randomized, double-blind, placebo-controlled, withdrawal study of digoxin in patients with chronic heart failure treated with converting-enzyme inhibitors. *J Am Coll Cardiol.* 1992;19:260A. Abstract. **2.** Young JB, Uretsky BF, Shahidi FE, Yellen LG, Harrison MC, Jolly MK. Multicenter, double-blind, placebo-controlled randomized withdrawal trial of the efficacy and safety of digoxin in patients with mild to moderate chronic heart failure not treated with converting enzyme inhibitors. *J Am Coll Cardiol.* 1992;19:259A. Abstract.

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PREVIEW OF THE 113TH ANNUAL CONVENTION OF THE NORTH CAROLINA PHARMACEUTICAL ASSOCIATION

Seven Hours of ACPE approved Continuing Education can be obtained by attending the NCPhA General Sessions, and workshops during the 113th NCPhA Annual Convention, May 23-26, 1993.

Awards will be presented to deserving pharmacists at the Awards Session on Sunday, May 23 and later that evening during the Opening Session Banquet.

President's Reception on Sunday, May 23, from 6:00 p.m.–7:00 p.m. will honor Henry L. Smith, NCPhA President; Carolyn O'Quinn, Woman's Auxiliary President; William V. O'Quinn, Traveling Members' Auxiliary; William H. Campbell, Dean, UNC School of Pharmacy; and Award Recipients.

Larry Wamble, P.D., a community pharmacist in Osceola, Arkansas will bring humor and practical knowledge of his broad community and professional experience as he shares "I Know You Hear Me, But Are You Listening?" during the Opening Banquet, Sunday, May 23. He is a true storyteller, combining a generous wit with a down to earth understanding of human emotion. Larry will make you laugh as he shares with you a realistic, sensible concept of human nature.

Richard L. Drinon, professional speaker and writer, will present "Peak Performance & Attitude" during the 1st General Session on Monday, May 24. Rich will provide his audience with a strategy for improving personal performance; an understanding of our learning processes; ideas for overcoming limiting beliefs; and techniques for creating a positive self image. In addition, Rich will present "Manage Your Time, Manage Yourself" during a workshop on Monday afternoon. This workshop is highly recommended for those who feel there are not enough hours in a day. Learn useable time management tools; goal setting techniques; ideas for handling multiple priorities and more!

Shag Instructions will be given on Monday afternoon, May 24, by Waldo Clifton and Rosalind Austin of the Carolina Cotillion Club of Raleigh. If you've yet to learn the Shag, the dance craze that began in the North Carolina coastal area, or you just need to polish up, don't let this opportunity pass you by.

Clambake by the Pool, Monday, May 24. Join friends and colleagues around the pool as you relax and enjoy a delectable dinner.

The T.M.A. Dance, Monday, May 24, will feature "The Band of Oz" for an evening of music, dance and entertainment.

Bruce A. Berger, Ph.D., R.Ph., Professor of Pharmacy Care Systems at Auburn University in Alabama will talk on "The Future of Pharmacy: Who Will Take Responsibility for Drug Related Problems?" at the 2nd General Session on Tuesday, May 25. Bruce will discuss the impact of technology on the future of practice; identify what must be done to make pharmaceutical care a reality; and identify the skills necessary for accomplishing pharmaceutical care.

Exhibitor's Fair and Apron Luncheon. With a delicious lunch neatly tucked into the pockets, the Apron Luncheon adds new meaning to the term "to go." Enjoy your lunch as you browse through the large number of exhibits on Tuesday, May 25.

Cruise on the Carolina Princess to the Galley Stack Restaurant for Dinner on Tuesday, May 25. In addition, the NCPhA staff will provide children's activities this evening from 6:00p.m. until midnight at the hotel. An evening you don't want to miss!

Ice Cream Sundae Party, Tuesday, May 25. As a finale to an evening out, ice cream and lots of toppings will be served with delicious coffees.

Breakfast and Installation of Officers will be on Wednesday, May 26. A savory breakfast will precede the installation of the 1993-94 NCPhA officers and the recognition of auxiliary officers.

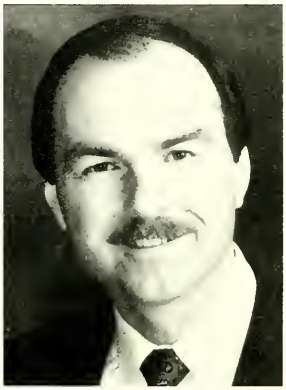
NCPHA CONVENTION ENSEMBLE

Henry L. Smith
President, NCPhA

Carolyn O'Quinn
President, WA

William V. O'Quinn
President, TMA

Bruce A. Berger
Speaker



Richard L. Drinon
Speaker

Larry Wamble
Speaker

113th Annual NCPhA Convention PROGRAM

Sunday, May 23

8:00am-4:00pm	UNC School of Pharmacy "Training Pharmacy Preceptors" Workshop *(Holiday Inn)*
3:00-6:00pm	Registration Desk Open
5:00-6:00pm	**NCPHA AWARDS SESSION** Henry L. Smith, NCPhA 1992-1993 President Master of Cermonies
6:00-7:00pm	**PRESIDENT'S RECEPTION** honoring William H. Campbell, Dean, UNC School of Pharmacy and the Presidents of NCPhA,Woman's Auxiliary, Traveling Members' Auxiliary, and Award Recipients
7:00-10:00pm	**OPENING BANQUET** Henry L. Smith, NCPhA 1992-1993 President, Master of Cermonies **"I Know You Hear Me, But Are You Listening?"** Larry Wamble, Keynote Speaker Osceola Pharmacy, Osceola, Arkansas *Sponsored by Marion Merrell Dow* **Entertainment by the Crystal Coast Chorale**

Monday, May 24

7:00-8:30am	Christian Pharmacists' Breakfast
7:00-8:30am	Kappa Psi Alumni Breakfast
8:00-9:00am	TMA Foundation Breakfast
9:00am-5:00pm	Board of Pharmacy Exam Review *(Holiday Inn)*
8:00am	Registration Desk Open

Monday, May 24 (continued)

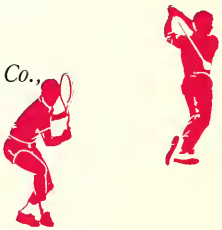
8:30am **1st NCPhA GENERAL SESSION**
W. Robert Bizzell, President Elect, Moderator
Rite of the Roses
Pamela U. Joyner and Rebecca W. Chater
President's Address
Henry L. Smith
Committee Reports:
Nominations, Resolutions, State Legislative, and Constitution & Bylaws Committees
J. Andrew Barrett, Executive Director
Pharmacy Network National Corporation

10:00am-Noon **"Peak Performance & Attitude"** • • • 2.0 hrs. ACPE • • •
Richard L. Drinon
ExecutivEdge, Topeka, Kansas
Sponsored by Searle

Refreshment Break Sponsored by N.C. Mutual Wholesale Drug Co.

9:00am-2:00pm *Woman's Auxiliary Mystery Tour and Lunch

Afternoon **GOLF TOURNAMENT**
Sponsored by Burroughs Wellcome Co., Owens Brockway and Glaxo Inc.



Afternoon **TENNIS TOURNAMENT**
Sponsored by Sam Stuart,CLU

2:00-4:00pm **WORKSHOP** • • •2.0 hrs. ACPE • • •
"Manage Your Time, Manage Yourself"
Richard L. Drinon
Sponsored by Searle

4:30-5:30pm ***SHAG INSTRUCTION**
by Waldo Clifton and Rosalind Austin of the Carolina Cotillion Club of Raleigh, Inc.

5:30-6:30pm **Preceptor Reception** UNC School of Pharmacy and Campbell University School of Pharmacy *(by invitation)*

6:30p.m. ***CLAMBAKE BY THE POOL**

9:00pm-Midnight ***TMA DANCE**—featuring "The Band of Oz"
Dance demonstration by Waldo and Rosalind and presentation of Tennis and Golf Awards

Tuesday, May 25

7:00am	Woman's Auxiliary Walk-A-Thon
7:00-8:30am	VIP Breakfast
8:00am	Registration Desk Open
8:30am-Noon	**2nd NCPhA GENERAL SESSION** **"Update on Patient Counseling and OBRA '90"** Benny Ridout, Pharmacist Consultant State Medicaid Program **"The Future of Pharmacy: Who Will be Responsible for Drug Therapy?"** • • • 3.0 hrs. ACPE • • • Bruce A. Berger, Professor Department of Pharmacy Care Systems Auburn University College of Pharmacy *Supported in part by Upjohn* *Refreshment Break sponsored by N.C. Mutual Wholesale Drug Co.*
10:00am	Woman's Auxiliary Business Meeting, Luncheon, Fashion Show and Installation of Officers at the Dunes Country Club
10:00am	Traveling Members' Auxiliary Annual Business Meeting
Noon-1:00pm	**PharmPAC MEETING**
1:00-5:00pm	***EXHIBITS AND APRON LUNCHEON IN THE EXHIBIT HALL** *Lunch & Aprons sponsored by Marion Merrell Dow*
6:00pm-Midnight	**"Parents' Night Out"** Kids' Pizza, Pool, and Ice Cream Party. Activities supervised by the NCPhA staff.
6:30pm	**CRUISE ON THE CAROLINA PRINCESS TO GALLEY STACK RESTAURANT FOR DINNER** *Refreshments onboard courtesy of Sam Stuart, CLU (limited seating)*
8:00pm	**DINNER AT GALLEY STACK RESTAURANT** (for those using ground transportation)

Tuesday, May 25 (continued)

11:00pm ***ICE CREAM SUNDAE BAR**

Wednesday, May 26

8:00am **BREAKFAST AND INSTALLATION OF NCPhA OFFICERS**
Recognition of the Woman's Auxiliary and
Traveling Members' Auxiliary Officers

9:00am-12:30pm **3rd NCPhA GENERAL SESSION**
W. Robert Bizzell, 1993-94 President, Moderator
Resolutions
Nominations
Constitution & Bylaws Amend. nts
Annual Reports:
Campbell Univ. School of Pharmacy
Ronald W. Maddox, Dean
Michelle Warren, ASP President

UNC School of Pharmacy
William H. Campbell, Dean
Cyndi Dickerman, ASP President

***Dress: Beach Casual–Open Collar**

Monday night's entertainment—*The Band of Oz.*

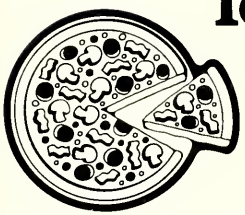
BOARD OF PHARMACY EXAM REVIEW

Holiday Inn
Atlantic Beach, North Carolina
Monday, May 24, 1993

9:00 a.m.	**Introduction of Program** Ronald W. Maddox, Pharm.D., Dean Campbell University School of Pharmacy
9:05 am	**NC Pharmacy Law Review** James A. Boyd, Pharm.D., M.B.A. Campbell University School of Pharmacy
10:10-10:30am	**Refreshment Break** Sponsored by Campbell University School of Pharmacy and UNC School of Pharmacy
10:30-11:45am	**Review of Parenteral Antibiotics** Byron May, Pharm.D. Campbell University School of Pharmacy Duke University Medical Center
11:45am-1:00pm	**Luncheon**
1:00-1:15pm	**NC Pharmacy Format** Bobby Belvin Director of Inspection NC Board of Pharmacy
1:15-2:10pm	**Pharmacokinetics Review** Ronnie Chapman, Pharm.D. Campbell University School of Pharmacy
2:10-2:30pm	**Refreshment Break**
2:30-3:15pm	**Review Over-the-Counter Products** Stephen M. Caiola, M.S., R.Ph. UNC School of Pharmacy
3:15-4:30pm	**Errors and Omissions: Compounding** Robert L. Smith, M.S., R.Ph. UNC School of Pharmacy
4:30-4:45pm	**Program Evaluation**

☛ **Registration and hotel reservation forms on page 22.**

Kids' Pizza, Pool, and Ice Cream Party



detach here

Parents, this is your opportunity for the break you deserve! Terri and Michelle, of the NCPhA staff, will provide activities for children 3 to 12 years old from 6:00 p.m. until midnight on Tuesday, May 25 at the Sheraton Atlantic Beach Resort.

Kids will enjoy pizza, swimming, games and ice cream while you cruise on the Carolina Princess to dinner at the Galley Stack Restaurant or just enjoy an evening out. As a finale to the evening, the children will reunite with their parents during the Ice Cream Sundae Bar.

Complete the registration form below:

_____ ( )
Name Parent/Guardian Telephone Number

_____
Child's Name Nickname Age

_____
Mailing Address of Parent/Guardian

_____
City State Zip

Fee:

_____x $20.00 for first child/add $18.00 for each additional child from the same family.
Fee includes: Pizza, Games, Swimming, Ice Cream, and Surprises.

☛ *Enclosed is my check for $_____made payable to NCPhA Kids' Program.*
Mail check and registration form to NCPhA, P.O. Box 151, Chapel Hill, NC 27514.

Special Information: *Complete and circle appropriate answers.*

_____ **can swim/cannot swim** and has the permission of
child's name
_____to swim in the shallow/deep end of the pool.
parent/guardian's name

Are there any disabilities or special health considerations we should be aware of?
If so, please list.

ATTENTION PHARMACISTS LICENSED 50 YEARS OR MORE

If you have been a pharmacist for 50 years or more—licensed in 1943 or earlier—you are eligible for induction into the 50-plus Club. Inductees will be recognized at the Awards Session on Sunday, May 24, during the 113th NCPhA Annual Convention at the Sheraton Atlantic Beach Resort in Atlantic Beach, NC. Friends and family are welcome.

Contact the NCPhA office if you qualify for "membership " into this elite group of pharmacists who have served their profession for 50-plus years. Call 800-852-7343.

CALL FOR RESOLUTIONS

Resolutions from NCPhA members may be submitted for study or action at the 113th NCPhA Annual Convention. Resolutions help guide NCPhA policy, planning, and actions. Each resolution is reviewed in advance by the Resolutions Committee for appropriateness and form. Resolutions are presented by the Resolutions Committee to the NCPhA membership during the 1st and 3rd General Sessions. You may submit your resolution in writing by May 10, 1993 to:

Stephen C. Dedrick
Chairman, Resolutions Committee
5404 Hallmark Road
Durham, NC 27712

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RESERVATION REQUEST
SHERATON ATLANTIC BEACH RESORT
NC Pharmaceutical Association
May 23–26, 1993

Please Note:

We have reserved a block of rooms for The NCPhA Annual Convention at the SHERATON ATLANTIC BEACH RESORT in Atlantic Beach, North Carolina. Your room reservation should be made directly with the SHERATON. Please specify the type of room desired and advise them you are attending the NCPhA Convention.

Direct correspondence and phone calls to:

SHERATON ATLANTIC BEACH RESORT

P.O. Box 3040

Atlantic Beach Resort, NC 28512

(919) 240-1155 • 1-800-624-8875

☛ One night's deposit is required to guarantee reservation. Reservations must be cancelled 72 hours prior to arrival to ensure advance deposit refund.

✂ *detach and mail*

ROOM RESERVATIONS FOR: **N.C. PHARMACEUTICAL ASSOCIATION**

Type of Room *(check desired options)*	**Group Rate**
❑ Single Room	$89.00
❑ Double Room	$89.00

(Rate does not include tax; check-in 4:00 p.m., check out 12 noon.)

Please reserve accommodations for:

Name(s) _____

Address _____

City _____ State _____ Zip _____

Telephone _____

Arrival Date _____ Time _____ Departure Date _____

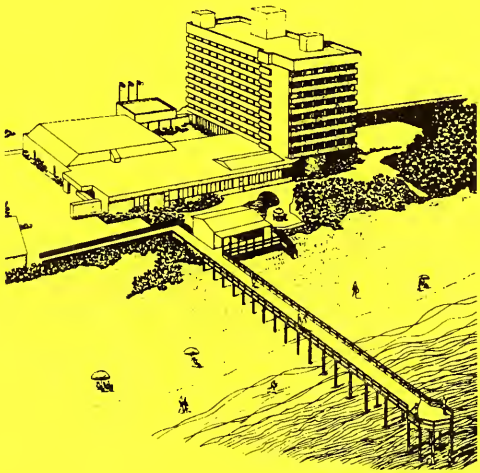
❑ Check or money order enclosed ❑ Credit card. Name of card _____

Credit card number _____ Expiration Date _____

Signature _____

North Carolina Pharmaceutical Association 113th Annual Convention

May 23–26, 1993
Sheraton Atlantic Beach Resort
Atlantic Beach, North Carolina



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- Dinner Cruise
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- Sand, Sun and FUN!

Use the pull-out registration on the next page and register today!

Convention Registration Form

113th Annual Convention of the NCPhA and Affiliated Auxiliaries

☛ Instructions/Special Information:

Complete Sections A-D. Payment must accompany convention registration form to be processed. Convention registration is required to attend any function. Tickets must be purchased/requested for all functions through the NCPhA office or registration desk. Tickets will be taken up at the door. Anyone not presenting a ticket will not be permitted to enter.

✎ Section A: Meeting Registration *(print clearly)*

Last Name _____ First Name _____

Spouse/guest _____

Name for Badge _____ / Name for spouse/guest badge _____

Address _____

City, State, Zip _____

( ) _____ ( ) _____

Home Telephone Business Telephone

Is this your first NCPhA Convention? [ ] yes [ ] no

✎ Section B: Registration Fees

✎ Section C: Events/Special Fees

Refer to Convention Program for specific times for events. ***Indicate all events you plan to attend.***

REG*=Included in Convention Registration*

# tickets	*Event /Day of Event*		
____	Awards Program–*Sun*	REG	
____	Presidents' Reception–*Sun*	REG	
____	Banquet–*Sun*	$20	____
____	Christian Pharmacists Bkfst–*Mon*	$10	____
____	Kappa Psi Alumni Breakfast–*Mon*	$10	____
____	TMA Foundation Breakfast	$10	____
____	1st General Session–*Mon*	REG	
____	*WA Mystery Tour & Lunch–*Mon*	REG	
____	Golf Tournament–*Mon*	REG	
____	Tennis Tournament–*Mon*	REG	
____	Afternoon Workshop–*Mon*	REG	
____	Shag Instructions–*Mon*	REG	
____	Clambake by the Pool–*Mon*	$15	____
____	TMA Dance–*Mon*	REG	

CATEGORY	DAY	SUN	MON	TUES	WED	
✔ *appropriate categegory*		*circle day(s) attending*				
❒ NCPhA Member	$100	$20	$35	$35	$20	____
❒ WA Member	$60	$5	$30	$30	$5	____
❒ TMA Member	$50	$10	$25	$15	$10	____
❒ Non-Member Pharmacist	$120	$25	$40	$40	$25	____
❒ Spouse/Guest	$80	$15	$30	$30	$15	____
❒ Exhibitor	$60	$15	$30	comp	$15	____

❒ Pharmacy Students & May Grads.–NO REGISTRATION FEE---

"Section B" TOTAL $____

☛ **CANCELLATION POLICY: Cancellations must be in writing and postmarked no later that May 15. Registration refunds will be assessed a $15.00 cancellation fee. No refunds will be made after May 15.**

Return completed registration to:

NCPhA
P.O. Box 229
Chapel Hill, NC 27514-0229

Questions? Call NCPhA 1-800-852-7343

Installation of Officers–*Tues* ..... REG
____ Exhibits/Apron Luncheon–*Tues* ..... REG
____ Cruise/Dinner–*Tues* ..... $25 ____
____ Dinner at Galley Stack–*Tues* ..... $15 ____
____ Ice Cream Sundae Bar–*Tues* ..... REG
____ Installation of Officers Breakfast–*Wed* $12 ____
____ 3rd General Session–*Wed* ..... REG

"Section C" TOTAL $____

☛ **Must be registered as a Woman's Auxiliary member to attend*

✎ Section D: Payment

Add "Section B Total" to "Section C Total" and enter the amount on the line below

PAYMENT TOTAL $ ____

Method of payment *(✔ appropriate answer)*

❒ Check enclosed made payable to NCPhA

❒ Visa ❒ Mastercard

Card # exp. date

Card Holder's Signature

North Carolina Board of Pharmacy Exam Review
Holiday Inn
Atlantic Beach, North Carolina
May 24, 1993
Registration Form

Please complete the information below to register for the Board of Pharmacy Exam Review. If you wish to register for additional convention activities, please complete the "Convention Registration Form" on the previous page. Payment must accompany registration form(s) to be processed.
Please use one form per registrant.

Last Name (please print) First Name Nickname

Address

City State Zip

Telephone University Affiliation

Board of Pharmacy Exam Review and Luncheon $35
☛ *refer to the enclosed Board of Pharmacy Exam Review Program on page 15 for specifics.*

Method of Payment *(check appropriate box)*
My check is enclosed for $35 made payable to NCPhA ❑ Visa ❑ Mastercard

Card # Expiration date Signature

☛ **Please return the upper portion to NCPhA, P.O. Box 151, Chapel Hill, NC 27514**
Do NOT mail hotel reservations to NCPhA

HOLIDAY INN ATLANTIC BEACH RESERVATION REQUEST
Group: N.C. Pharmaceutical Association/Board Review

Rate: $60.00 Weekdays $75.00 Saturday **Amount Enclosed $_____**

All rooms have 2 double beds _____ Arrival Date _____Departure Date _____# persons

Please indicate your preferences: _____smoking room _____nonsmoking room
_____arrival by 6 p.m. _____credit card gtd. _____deposit enclosed

Name on Credit Card Type Exp. date

Name

Address

City State Zip

☛ **Please return the hotel reservation form to Holiday Inn, P.O. Box 280, Atlantic Beach, NC 28512 • (919) 726-2544**
Do NOT mail hotel reservations to NCPhA.

DICKINSON'S PHARMACY

IS PCS REALLY PHARMACY'S FRIEND?

When Bob Johnson left the California Pharmacists Association to become chief executive officer of McKesson's Pharmaceutical Card Systems (PCS), everyone was filled with optimism. I even wrote a column urging every pharmacist to support PCS.

Now I take that back. Bob's still doing a valiant job, trying to make hard-nosed, misinformed health plan administrators see what they don't want to see–but the case of Lake Gregory Pharmacy makes me want to withdraw my call for unqualified support of PCS, or of any other claims processor/third party administrator, for that matter (let's keep this unemotional and objective).

"PCS is probably better than most, but they all have to make a living in the same third-party jungle..."

PCS is probably better than most, but they all have to make a living in the same third-party jungle–and that seems to mean sacrificing fair treatment of both pharmacies and patients.

Take the case of Lake Gregory Pharmacy, in the one-pharmacy mountain town of Crestline (pop. 8,000), California. Owner Ed Burrows thought that, with the nearest competing pharmacy 40 miles away, he could afford to be independent of fee-setting companies like PCS.

As long as he provided superior pharmacy services and excellent relationships with his patients, they would file paper claims for his charges and be paid in full. And, until last May, that worked fine.

Then one of his best patients showed him her reimbursement stub from PCS, where the claims processor had arbitrarily and without notice sliced 25% off her claim for his $209.95 charge for 60 Mevacor 40 mg tablets for a total reimbursement of $159.46. This was $3 below Ed's actual acquisition cost and $39.63 below AWP.

Neither the patient nor he had been warned of this abrupt departure from previous PCS payment history for this drug and this patient (she had been receiving full payment for almost three years).

Ed called a RECAP pharmacist long-distance in Lake Arrowhead to compare experiences, and found that he had not been cut at all on Mevacor–he had been direct-reimbursed $204 for the same Rx.

Why the discrimination? Ed called me, and I called Bob Johnson, who seemed unsurprised at the discrimination but incredulous that PCS could have paid less than actual acquisition cost.

I faxed him Ed's proof–a copy of his patient's reimbursement stub from PCS with Ed's handwritten notation of his actual acquisition cost and the Mevacor AWP.

After a week with no response to my fax–more notice that PCS had provided Ed or his patient!–I ran the story in my newsletter, under the headline "PCS Cuts Pharmacy to Less than Actual Cost."

That apparently energized PCS. In a few days, I got a peeved fax from Bob together with a copy of an internal PCS memorandum responding to the newsletter story. The memo had been prepared by assistant vice president for professional services Dan Boesen, who, like Bob himself, had been recruited to PCS from pharmacy (formerly executive director of the Arizona Pharmacy Association and co-owner of two independent pharmacies).

Dan's memo said: "As is often the case, facts are discarded in favor of fictional anecdotes. Greg Watanabe reviewed our files and found that Lake Gregory Pharmacy in Crestline, California is not a RECAP pharmacy. The payment stub...is a patient claim stub and not the pharmacy claim stub."

"This plan actually pays full AWP. However, the patient's decision to use a non-participating pharmacy meant that the patient was reimbursed directly using a formula:

(Claim amount minus copay times 75%)

$209.95 - $8.00 x .75 = $151.46

"It would appear," Dan concluded, "that these facts were not considered prior to printing the newsletter and the pharmacist did not verify patient coverage prior to what appears to be his acceptance of assignment of payment."

In response, I tried to phone Bob but he was in travel. So I faxed him a letter describing the hardship PCS had caused Ed's patient. She faced a one-hour drive out of town to get her prescription filled at a RECAP pharmacy–a perfect set-up for mail-order.

PCS vice president Charlie Pulido faxed a short note in acknowledgment the next day: "PCS does not set these rules–they are set by the plan sponsor. This plan sponsor requires a 25% penalty when non-network pharmacies are used."

I replied, in part: "PCS is the party that accepts or rejects plans that damage independent pharmacies, and it is the one that cuts the checks. It is also in a prime position to educate/counsel plan sponsors as to what will enhance their interests among providers; if PCS instead puts its own short-terms interests first (a contract in the hand is worth two in the bush), it must take the PR consequences.

"I realize that the issue is RECAP versus no-RECAP; unfortunately, what should be a free option that succeeds or fails on its own merits in the open market becomes instead (at least in pharmacists' eyes) an economic bludgeon–or as Lake Gregory Pharmacy's Ed Burrows puts it, tyranny.

"PCS has been selling a difficult message to two skeptical audiences (pharmacies and plan sponsors), but it needs to do better than accept any plan with a 25% patient penalty for use of 'non-participating' pharmacies."

Admittedly, PCS and other claims processors have a tough row to hoe at times. The temptation must be great to put sponsor-education on the back burner when the prospect of winning a lucrative contract is at hand. Would **you** pass up, say, a million dollars just because a handful of "marginal" fellow pharmacist **might** go under and a few hundred patients would be forced to drive further to a pharmacy if you did?

And there, at press time, the matter lies. My question remains: Is PCS really pharmacy's friend?

This feature is written and presented by Jim Dickinson on a grant from "Dickinson's Pharmacy–The Independent Voice," a professionally stimulating monthly newsletter, available for $45 a year plus your retail pharmacy's label from Ferdic, Inc., P.O. Box 367, Las Cruces, NM 88004-0367. NCPhA accepts no responsibility for the views expressed herein as they are those of the author and not necessarily those of NCPhA.

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THE CIVIL RIGHTS ACTS OF 1964 & 1991

by Denise Haskell, Associate with Bailey & Dixon Law Firm, Raleigh

The Civil Rights Act of 1964 (the Act) prohibits unlawful discrimination in employment to ensure that all persons are given equal employment opportunities regardless of race, color, sex, religion, or national origin. Equal employment opportunity applies to all terms and conditions of employment including hiring, compensation, training, promotions, transfers, daily supervision, daily assignments and terminations. The Act applies to employers with fifteen (15) or more employees. The Civil Rights Act of 1991 amended the Civil Rights Act of 1964 to make it easier for employees to prove charges of discrimination and places an increased burden on employers to prove that discrimination did not take place. Under this law, victims of discrimination may now recover compensatory and punitive damages and are entitled to a jury trial.

In order to avoid discrimination, employee applicant procedures must be objective and job-related. Thus, when interviewing applicants, the employer should be careful to ask only job-related questions that are necessary to determine the applicant's suitability for the job. Likewise, an employer should take steps to avoid promoting individuals on the basis of discrimination. For example, performance appraisals should be thorough, performed regularly, and based on objective, job-related criteria. Further, when disciplining or terminating an employee, the employer should apply the same standards to everyone. Performance expectations should be reasonable and communicated clearly to the employee. The employer should discuss ways to improve performance with the employee and document poor performance and inform the employee of the actions which will be taken if performance is not improved. In addition, the employee should be given adequate time and opportunity to improve his performance.

Employee harassment in the work place is lso prohibited. Harassment is unwelcome verbal or physical behavior, which is intended to or has the effect of creating an intimidating, hostile, or offensive work environment. One form of harassment which has received a lot of attention in the past year is sexual harassment. Sexual harassment is any unwanted pressure involving one's sexuality. It includes a whole spectrum of behaviors from verbal innuendoes and suggestive comments to rape and attempted rape. Sexual harassment occurs when submission to unwelcome sexual advances is considered either explicitly or implicitly a term or condition of an individual's employment or is used as a basis for employment decisions. Another type of sexual harassment occurs when the offending conduct is performed for the purpose of or has the effect of unreasonably interfering with an employee's work performance or creating an intimidating hostile or offensive work environment. An employer can be held responsible for its own acts of sexual harassment as well as acts of its agents and supervisory employees, even if the specific acts were forbidden by the employer and regardless of whether the employer knew or should have known of their occurrence. An employer also may be responsible for sexual harassment between fellow employees if the employer or its agents or supervisory employees knew or should have known of the conduct, unless it can be shown that immediate and appropriate corrective actions was taken.

All employers should adopt a policy forbidding sexual harassment and establish procedures for employees to follow when confronted with sexual harassment. All reports of sexual harassment should be kept in strictest confidence and accurate documentation should be maintained regarding the complaints, investigations, and steps taken to correct the problem. Pharmacists, as employers and employees, must be sensitive to and take steps to avoid discrimination in the work place.

WA President Carolyn O'Quinn presiding at the Fall Convocation.

Pharmacist William Burch informs the audience of the problems of medicating the elderly population.

Virginia Tate of Greensboro demonstrates how to cook with herbs during her presentation.

LeAnne Kennedy of Campbell University provides entertainment at the Fall Convocation. LeAnne is also a WA scholarship recipient.

HIGHLIGHTS OF THE FALL CONVOCATION WOMAN'S AUXILIARY OF THE NCPHA

The Fall Convocation of the Woman's Auxiliary of the NCPhA was held Tuesday, October 20 at the Institute of Pharmacy in Chapel Hill.

Tracey Smith, Hospitality Chairman, provided delicious refreshments for our coffee. She also provided the beautiful and unusual centerpiece made of sunflowers and hydrangeas. Neta Whaley extended a special welcome to everyone and Ruby Creech gave the invocation.

We were privileged to have greetings from the new Dean of the UNC School of Pharmacy, William Campbell; Ronald Maddox, Dean of the Campbell University School of Pharmacy; Henry Smith, president of the NCPhA and Bill O'Quinn, president of the TMA.

Our speakers for the day discussed topics pertaining to our theme for the year, "Staying Healthy—Focusing on the Elderly." Ms. Ginnie Tate, a nurse at Moses Cone Hospital in Greensboro, gave a very informative talk on how to cook with herbs to flavor our foods and eliminate the need for fats and sodium in our diet. Everyone enjoyed the tasty samples she prepared and were delighted with the variety of living herbs she exhibited. Bill Burch, pharmacist and owner of Central Medical Pharmacy in Durham, spoke about the problems of medicating the elderly. Clark Langworthy, Lifeline volunteer in Chapel Hill, demonstrated the Lifeline equipment used by people who live alone or have medical problems. With this service, people are able to get someone to respond to their call for help immediately.

Our lunch was catered by Baxley's of Raleigh and was enjoyed at the Institute. The tables looked lovely with centerpieces of various herbs in our WA pharmacy tins. These were then given as door prizes. Also, special thanks to Mutual Wholesale Drug for the other door prizes.

Following lunch, four of our scholarship recipients were recognized. LeAnne Kennedy, recipient of the Campbell School of Pharmacy scholarship, presented a beautiful harp concert.

It was a most informative and enjoyable fall day and a wonderful opportunity to visit with friends.

Betsy Millar of Winston-Salem, *left*, presents a check to President Carolyn O'Quinn. Mrs. Millar's check increased her mother's (Lucile S. Rogers) scholarship fund balance to $50,000.

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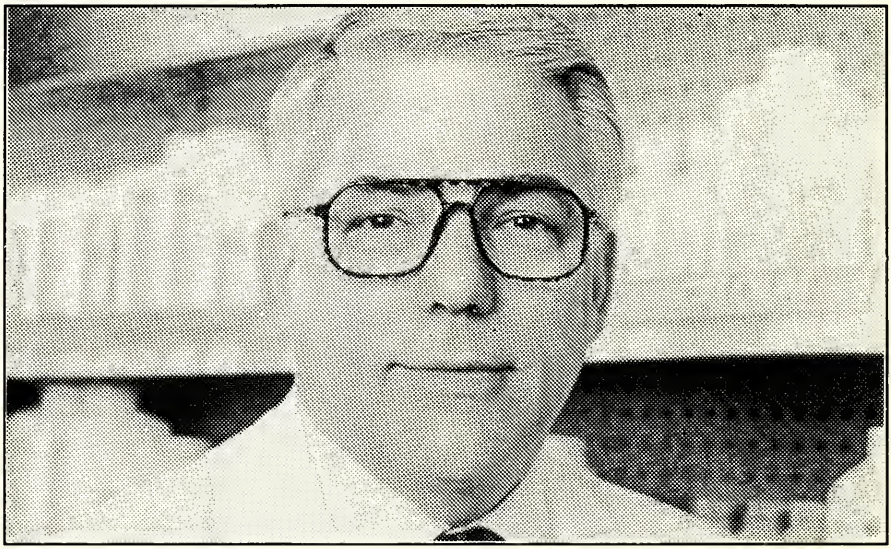

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CORRESPONDENCE COURSE

ADVISING PATIENTS ON URINARY TRACT INFECTIONS

Thomas A. Gossel, R.Ph., Ph.D.
Professor of Pharmacology and Toxicology
Ohio Northern University
Ada, Ohio

J. Richard Wuest, R.Ph., Pharm.D.
Professor of Clinical Pharmacy
University of Cincinnati
Cincinnati, Ohio

Goals

The goals of this lesson are to discuss the etiology and treatment of urinary tract infections, and present information that can be passed along to interested consumers.

Objectives

At the conclusion of this lesson, participants should be able to:

1. select terminology that pertains to urinary tract infections;
2. choose the therapeutic agents used to treat urinary tract infections, and know their mechanism of action, adverse effects, and therapeutic application; and
3. choose from a list, appropriate advice to convey to patients with urinary tract infections to insure they receive maximum therapeutic benefit from their treatment.

Urinary tract infections (UTIs) are reported to affect upwards of 10 percent of the population, depending on the age of the patient. Infections of the genitourinary tract are second only to those of the respiratory tract in frequency during childhood. They are said to account for five million physician visits annually in the U.S. Approximately 20 percent of all antibiotic prescriptions are issued for treating UTIs.

Background

Urinary tract infections are common in both young males and females under one year of age, but thereafter are more prevalent in females. This prevalence continues throughout life with incidence increasing with advancing age, probably due to decreasing ability to manufacture antibodies in response to infection. The incidence of bladder, urethral and kidney disease increases in men as they reach their 60s. At this age, the incidence of these diseases is similar in men and women. Urinary tract infections are reportedly the most common type of hospital-acquired infection. The incidence may include as many as 30 percent of inpatients, depending on their overall health, and/or whether instrumentation (catheter-

ization, cystoscopy) was employed. Improper technique in catheterization is an important cause of hospital-acquired UTIs. Infective organisms can be introduced with the catheter during insertion or migrate along an indwelling catheter.

Most bacteria that invade the urinary tract are normal inhabitants of the lower GI tract. This may explain, in part, why women are more commonly infected than men. Bacteria need only ascend a short distance up the urethra to their bladder (Figure 1). Bacteria readily migrate into the vagina and beyond. Therefore, intercourse is contributory to spreading pathogens throughout the area.

Urine from females has also been shown to provide a better medium for bacterial growth, because it is slightly more alkaline than that of males. Once the pH of urine becomes more alkaline, bacterial growth is enhanced.

Predisposing Factors

Calculi. Most kidney stones are caused by excessive production and deposition of calcium salts. Stones may also form from carbonate, oxalate, urate or other crystalloids. Alkalinization of urine decreases the solubility of calcium and increases the possibility of formation of renal calculi.

Obstruction. Obstruction of urine flow fosters infection. Once an infection begins in the presence of an obstruction or lesion, treatment is extremely difficult.

Anatomical abnormalities are frequently the cause of UTIs in infants and children. When infection occurs in this age group, suitable diagnostic studies should be performed. At this age, the incidence of abnormality is approximately the same for both sexes. Disorders most often encountered include stenosis (narrowing) of the external urethral meatus (opening) especially in males, and abnormalities in the collecting system.

Tumors located in the genitourinary system may produce partial or complete obstruction of urine flow. In males over 60 years of age, benign prostatic hypertrophy and carcinoma of the prostate often produce obstruction to urine flow at the level of the bladder neck. Benign prostatic hypertrophy is the most common abnormality which predisposes males to UTI.

Pregnancy. It is reported that 5 to 7 percent of pregnant women have asymptomatic bacteriuria (bacteria in the urine). Left untreated, 20 to 40 percent develop acute symptomatic UTIs some time prior to delivery. This may be due to urethral dilation which occurs during pregnancy. The dilated urethra allows easier entrance of bacteria.

Mechanical Factors. The most common mechanical factor that leads to development of UTI is catheterization or instrumentation of the bladder. As stated above, the majority of hospital-acquired urinary tract infections occur in patients who have been catheterized at some time during their hospital stay.

Neurologic Disorders

A neurologic dysfunction that would fail to initiate or control bladder emptying predisposes the patient to UTI. This is seen in persons with spinal cord tumors, spinal cord transection, or diabetic neuropathy.

Categorizing Urinary Tract Infections

Urinary tract infections are differentiated by pathogenic location into lower and upper tract infections. Infections of the lower tract are referred to as **cystitis** (bladder) and **urethritis** (urethra). Upper tract infections involve one or both kidneys causing **pyelonephritis.**

In a small number of patients, bacteria within the bladder may enter the upper urinary tract to invade the mucosa of the kidney. One or both kidneys may be infected to cause acute pyelonephritis. Patients with pyelonephritis are extremely ill, with fever of 104 to 105 ° F, shaking chills, paralytic ileus, and excruciating pain in the abdomen and back. When pyelonephritis follows an interference of normal urine flow (renal stones, tumor or enlarged prostate), or when urine flow is decreased, it must be re-instituted quickly. If not, total and irreversible damage to the affected kidney may result.

Another problem with pyelonephritis is that once therapy is initiated, leukocytes and bacteria begin to disappear from urine. The previously turbid urine of infected individuals sud-

denly appears clear, suggesting that it is bacteria-free. Because of this dramatic clearing of urine, the patient may falsely believe infection is over and stop taking the medication.

The resistant Gram-negative aerobic microorganisms found in chronic UTIs occasionally spread to the blood to cause septicemia. This may lead to circulatory collapse and shock, which can be fatal unless recognized and properly treated.

There are other means to categorize UTIs. **Chronic infections** are of lower grade but they linger over a prolonged period of time. **Symptomatic** refers to the fact that the patient experiences bothersome effects such as burning on urination, back pain, fever, etc. With **asymptomatic** infections, the pathogens are still present at inactive level, but the patient is not seriously aggravated by signs of disease. Nonetheless, asymptomatic infections should be treated.

With **complicated infections,** there is associated structural, functional, or neurological abnormality such as enlarged prostate or kidney stones. **Recurrent infections** are subdivided into **relapse,** in which the recurring infection is caused by the same strain of microorganism; and **reinfection,** which involves a different or mutated causative organism.

Acute (Uncomplicated) Infections. The vast majority (80 to 90 percent) of community acquired infections are caused by the uropathogen *Escherichia coli.* The Gram-positive bacteria Enterococcus species and *Staphylococcus saprophyticus* account for 10 percent of community-acquired UTIs.

For hospitalized patients (especially those who have been catheterized or have undergone cystoscopic examination), Proteus species, Klebsiella species, Enterobacter species and *pseudomonas aeruginosa* are often involved.

Chronic (Complicated) Urinary Tract Infections. Patients usually present symptoms of acute uncomplicated infection, but have a long history of repeated infections. Instrumentation or catheterization, pregnancy, and kidney stones all increase the possibility of a complicated UTI.

Unlike acute infections, chronic UTIs are usually characterized by more than one species of microorganism. Common ones include Proteus, Klebsiella, Enterobacter, Enterococcus, Pseudomonas, Staphylococcus, and possibly, Candida. *E. Coli* are responsible for about 50 percent of chronic complicated infections.

Confirming the Diagnosis

General symptoms often indicate that the

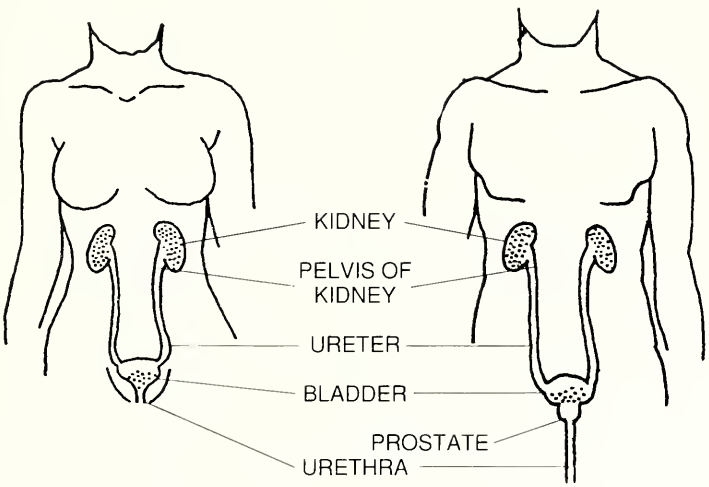

Figure 1. Anatomical location of urinary tract of females and males, showing relative length of urethra.

patient has a UTI. However, it is recommended that the physician confirm the probable diagnosis with a urinalysis. A normal urine sample contains a minimum bacteria count of 1000/mL. These are present because they are picked up as urine is excreted from the body. Urine is sterile when it leaves the kidneys, bladder and urethra. Bacterial counts of 100,000/mL of urine may be seen in 95 percent of all cases of pyelonephritis. This concentration is accepted by many authorities as the point where significant bacteriuria exists, and active treatment with appropriate anti-microbial therapy should be undertaken.

It is difficult to collect a reliable urine specimen in females because bacteria in the vaginal vestibule can easily contaminate the sample.. The most common and reliable method is referred to as the **clean midstream-catch** technique. The woman cleanses the area around the opening of her urethra. The labia are held apart so that urine can escape the urethra directly, without touching any external surface. After urination begins, as close to the midpoint as possible, she collects a "midstream" sample as she continues to urinate. This technique minimizes the chance of capturing uninvolved bacteria in the sample.

When bacteria are found in the sample and the count suggests infection, the physician will usually prescribe medical treatment before the organism is identified, because most UTIs are caused by *E. Coli* or related coliform bacteria. Cultures should still be made and positive identification confirmed, however. If the initial treatment has been effective, the bacterial count should drop within 24 to 48 hours. A 10-day course of therapy is normally adequate for most acute uncomplicated infections. If results of culturing show an unexpected bacterial species, or one that is unresponsive to the drug, therapy should be changed to the appropriate agent.

Occasionally, UTIs may exist without evidence of bateriuria. This is especially true when infection occurs high in the kidneys or with obstruction distal to the infection. An absence of significant bacterial count, in the presence of definite symptoms of UTI, should not prevent initiating appropriate drug therapy.

Home Test For Bacteriuria. Home tests for UTI (e.g., Microstix-3, Biotel/UTI) depend on bacterial conversion of nitrate (derived from dietary metabolites) to nitrite. The test strips have an acidic pH at which nitrite reacts with p-arsanilic acid to form a diazonium compound. This, in turn, couples with N-(1-naphthyl) ethylenediamine which is impregnated in the strip to initiate a pink color. If the test is positive, as indicated by a pink color, the user should suspect that bacteria are present in the urine. Test results are qualitative, not quantitative.

When recommending these OTC products, the person should be instructed to remove the reagent strips from the foil just prior to testing urine. The reagent area must not be touched. The strip is dipped in a sample of urine which is obtained in the early morning, to assure adequate time for incubation overnight, and the results read at the time specified on the package. The test is performed on three consecutive mornings.

The urine specimen should be collected in a clean, dry container and tested as soon as possible after collection. If testing cannot be performed within an hour of voiding, the specimen should be refrigerated immediately and tested within eight hours. In this case, the specimen should be returned to room temperature before testing.

Therapy for Urinary Tract Infections

Most urinary tract infections readily respond to drug therapy. Too often, however, they persist in latent form, or become chronic. Nearly all, other than those that were untreated or result from poor patient compliance with therapy, are caused by re-introduction of the organisms from an external source.

In the overwhelming majority of uncomplicated UTIs, a major reason for poor compliance is that symptoms disappear in a few days with or without drug treatment. Fatients must be convinced to continue therapy for the full course of treatment even if they feel better.

Acute Uncomplicated Infections. Treatment of acute uncomplicated UTI is fairly well defined (Table 1). The quinolone derivatives (e.g. ciprofloxin/Cipro, and norfloxacin/

Noroxin) have become widely used for acute UTIs.

Chronic Uncomplicated Infections. The most difficult UTIs to treat are those where urine flow is obstructed. Unless corrective surgery or appropriate urologic procedures are performed to correct the situation, infections will probably continue to recur in spite of repeated drug therapy.

Another chronic condition is referred to as infection of "stagnant urine." For these patients, nitrofurantoin or a methenamine salt may be effective in keeping the condition asymptomatic.

In non-responsive infections, a quinolone may be tried. Likewise, sulfonamides, penicillins, cephalosporins, tetracyclines, erythromycin, chloramphenicol or aminoglycoside antibiotics are used.

Drugs Specifically Indicated for Treating Urinary Tract Infections

Nitrofurantoin. The one indication for nitrofurantoin (e.g., Furadantin) and nitrofurantoin macrocrystals (e.g., Macrodantin) is management of UTIs, because therapeutically active levels are achieved in urine. These drugs are useful for both prevention and suppression of chronic infections, because of the low frequency of development of bacterial resistance.

Their spectrum of activity includes *E. coli,* Enterococci and Staphylococci. Enterobacter, Proteus and Klebsiella are less susceptible while Pseudomonas is ordinarily resistant. Antibacterial action is thought to be due to interference with several important bacterial enzyme systems, thereby inhibiting their replication and suppressing growth. Bacterial

Table 1

Representative Commercially Available Drugs Specifically Indicated for Treating Chronic Urinary Tract Infections

Generic Name	Trade Name	Dosage Forms
Cinoxacin	Cinobac	Capsules 250 & 500 mg
Ciprofloxacin	Cipro	Tablets 250, 500 & 750 mg
Methenamine hippurate	Hiprex Urex	Tablet 1 gm
Methenamine mandelate	Mandelamine	Tablet 500 mg & 1 gm Suspension 250 mg/5 mL, 500 mg/5 mL Granules 1 gm
	Mandemeth	Tablets ECT 500 mg &1 gm
Nalidixic acid	NegGram	Tablets 250 & 500 mg, 1 gm Suspension 250 mg/5 mL
Nitrofurantoin	Furadantin Furalan Furan Furanite	Tablets 50 & 100 mg Suspension 25 mg/5 mL
Nitrofurantoin (macrocrystals)	Macrodantin	Capsules 25, 50 & 100 mg
Norfloxacin	Noroxin	Tablets 400 mg
Ofloxacin	Floxin	Tablets 200, 300 & 400 mg

resistance to nitrofurantoin develops slowly and rarely.

The most common adverse reactions include gastrointestinal distress, such as anorexia, nausea, vomiting and occasional diarrhea and abdominal cramping. These can best be minimized by reducing dosage. Nitrofurantoin should be taken with food. One of its metabolites can impart a brownish coloration to urine. This is of no consequence and patients should be advised not to be alarmed if it occurs.

Some authorities suggest that if therapy is continued beyond 10 days, dosages should be reduced to one-half. Then after another 10 days, the dose should be decreased in half again, i.e., to one-fourth of the original dose.

Methenamine Salts. (Hiprex, Urex, Mandelamine) Methenamine has been preferred for long-term suppression of recurrent chronic UTI when the contributing complications are kidney stones or an inflamed prostate. Reasons for this preference include relatively low toxicity and rare bacterial resistance since it is antiseptic rather than antibiotic. Methenamine is not useful in management of acute UTIs.

In acid urine, methenamine is hydrolyzed to ammonia and formaldehyde, the active antibacterial agent. It is therefore imperative that urine acidity be maintained below pH 5.5. For patients whose urine is not naturally maintained at pH 5.5 or below, it may be acidified with ammonium chloride, or large doses of ascorbic acid. Patient response to the latter is variable.

High doses of urinary alkalinizers, such as sodium bicarbonate may inhibit conversion of methenamine to formaldehyde, and should be avoided. Nitrazine paper can be used to test urine pH.

It is not uncommon for patients to be on methenamine therapy for several years. Methenamine finds greatest use in treatment of UTIs that do not respond to more effective (and toxic) anti-infectives. This is especially true when there is a complicating factor such as an indwelling catheter, or a structural or functional abnormality which is the focus of the chronic condition.

Adverse effects are rare, the most common being gastrointestinal irritation (nausea, vomiting and diarrhea). Occasionally the liberated formaldehyde (or acidified urine) will produce further urinary tract irritation or discomfort. Formaldehyde imparts odor to the urine, so the patient should be informed. It is unwise to inform the patient that the smell is caused by formaldehyde, for obvious reasons.

A professional development program made possible by an educational grant from

SEARLE

Quinolone Derivatives. Five derivatives are currently available, with more on the way. The earliest quinolones, nalidixic acid (NegGram) and cinoxacin (Cinobac), were outstanding antimicrobials in their day. Over the years, once-susceptible organisms have developed resistance to them.

During clinical trials, it was shown that ciprofloxacin (Cipro) and norfloxacin (Noroxin) had significantly wider spectra of activity, lower occurrence of resistance and fewer side effects than their predecessor quinolones. Shortly after release on the market, both Cipro and Noroxin were in the top-100 prescribed drugs. Currently, they are in the top-50 list.

The newest quinolone derivative, ofloxacin (Floxin), also has a broad spectrum. It is officially indicated for UTI's and other infections.

Briefly, their mechanism of action is thought to be due to ability to enter susceptible bacteria and bind with bacterial DNA-gyrase. This enzyme converts relaxed (i.e., inactive) bacterial DNA into its active form. Quinolones terminate this conversion, promote breakage of

bacterial DNA strands and, therefore, are bactericidal.

Drug interactions have been reported. Aluminum and calcium-containing antacids hinder absorption of both agents, and should not be taken within an hour of each other. Ciprofloxacin appears to inhibit the metabolism of theophylline to increase its toxicity. Patients receiving both drugs should be monitored for signs of theophylline toxicity (e.g., nausea, vomiting, tremors, restlessness, palpitations and seizures).

The optimal time to take either ciprofloxacin or norfloxacin is on an empty stomach, with lots of fluid. Food can delay absorption of both drugs. The manufacturer of ciprofloxacin states that the dose can be taken with meals if needed. With norfloxacin, its manufacturer adds that food may decrease absorption and, therefore, recommends taking it on an empty stomach.

Ciprofloxacin has been reported to cause photosensitivity reactions. Patients taking it should avoid prolonged or excessive exposure to sunlight or ultraviolet "tanning" light.

Advising Patients on Urinary Tract Infections

Patients with UTIs should be reminded to comply with their physician's instructions involving therapy. They should drink at least 8 to 10 glassfuls of liquid each day.

A physician may prescribe a urinary analgesic such as phenazopyridine (Pyridium) for short-term (up to two days) management of pain and other discomfort of UTI. Patients should understand that the medication will impart a reddish-orange color to urine and may stain clothing.

CONTINUING EDUCATION QUIZ

Urinary Tract Infections

1. The abnormality that most commonly disposes older males to urinary tract infection is:
   a. atherosclerosis.
   b. meatal stenosis.
   c. prostatic hypertrophy.
   d. renal calculi.

2. The drug that exerts its antibacterial activity by being converted into formaldehyde in acidic urine is:
   a. Cipro.
   b. Macrodantin.
   c. Noroxin.
   d. Mandelamine.

3. Of the following, the most common cause of hospital-acquired urinary tract infection is:
   a. improper catheterization.
   b. overgrowth of intestinal bacteria.
   c. poor sanitary conditions.
   d. unsterile surgical equipment.

4. An infection of the urinary bladder is referred to as:
   a. cystitis.
   b. diverticulitis.
   c. pyelonephritis.
   d. urethritis.

5. Cipro and Noroxin are members of the chemical class of anti-infectives called:
   a. cephalosporins.
   b. nitrofurantoins.
   c. quinolones.
   d. sulfonamides.

6. All of the following information for consumers about OTC testing products for UTIs is correct EXCEPT:
   a. "Be sure the container used to collect the urine sample is clean and dry, and perform the test as soon as possible after voiding."
   b. "Perform the test on urine collected in the evening before going to bed to assure capturing all possible bacteria."

c. "Be sure to perform the test on three consecutive days."
d. "Keep the test strip in the foil wrapper until just prior to testing the urine."

7. Of the following, the most common cause of hospital-acquired urinary tract infection is:
a. *Escherichia coli.*
b. *Staphylococcus aureus.*
c. *Pseudomonas aeruginosa.*
d. *Streptococcus viridans.*

8. Which of the following is a major reason why urinary tract infections are more common in women than men?
a. Bacterial growth is enhanced by the slightly more acidic urine of women.
b. Bacterial growth is enhanced by the slightly more alkaline urine of women.

9. The advice "Take the dose with food" is *most* appropriate for which of the following drugs?
a. Noroxin
b. Macrodantin

10. Of the following, the most common cause of community-acquired urinary tract infection is:
a. *Escherichia coli.*
b. *Staphylococcus aureus.*
c. *Pseudomonas aeruginosa.*
d. *Streptococcus viridans.*

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Policy Change
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On March 30, 1993 the NCPhA Executive Committee voted to implement a $7.00 fee for each correspondence quiz submitted and graded for continuing education credit.

This decision was made after reviewing the number of tests received and the amount of staff time involved in processing the quizzes.

The goal in imposing the fee is to eliminate those submitting unnecessary quizzes and to recoup the staff time to be used in serving members in other areas.

This service remains a benefit of NCPhA members. Non-member tests will not be accepted.

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CONTINUING PHARMACEUTICAL EDUCATION (CPE)

Advising Patients on Urinary Tract Infections

- Attach a mailing label from *The Carolina Journal of Pharmacy* or print your name and address and mail with payment of $7.00 to CE Test, NCPhA, P.O. Box 151, Chapel Hill, NC 27514–0151
- Completed answer sheets may be returned on a monthly or less frequent basis for grading. **Quizzes not accompanied by payment will not be processed and will be discarded.**
- **This is a member service. Non-member tests will not be graded nor will CPE credit hours be given.**
- NCPhA will maintain a copy of your completed CPE tests and upon successful completion of each program, will issue a certificate for one (1) hour of North Carolina Board of Pharmacy approved CPE credit.
- If more than two (2) questions are answered incorrectly, the test is failed. You will be given one (1) opportunity to submit a second answer sheet.

Please circle correct answer

1. a b c d	4. a b c d	7. a b c d
2. a b c d	5. a b c d	8. a b
3. a b c d	6. a b c d	9. a b
		10. a b c d

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Hospital Positions

CLINICAL COORDINATOR: Cape Fear Valley Medical Center is seeking a clinical coordinator to plan, organize and supervise the clinical activities of the department. Specific responsibilities include training and supervision of staff pharmacists in clinical activities, maintaining and updating the departmental QA program, drug utilization reviews, and monitoring of drug therapy. Candidates should possess a PharmD in Pharmacy and be eligible for licensure in NC. Postgraduate experience is desirable. Cape Fear Valley Medical Center is a 506-bed regional referral hospital located in eastern NC. Residents enjoy seasonal weather changes with easy access to the mountains or seashore. Major universities are within commuting distance. The hospital offers virtually every specialty and subspecialty in treatment. Competitive salary and benefits are offered. Travel and lodging will be arranged for interviewing. If you are looking for a progressive facility in which to expand your professional experience, contact: Lib Whittington, Personnel Department, (919) 323-6646 or P.O. Box 2000, Fayetteville, NC 28302.

FULL-TIME PHARMACIST NEEDED: 81-bed hospital for both distributive and clinical duties (includes nutrition support and pharmacokinetics) in a flexible and progressive pharmacy department. Our size allows direct contact with patients, nurses and physicians within a family atmosphere. Join us in the scenic western NC mountains where weekends are spent hiking the Appalachian Trail, whitewater rafting, or shopping in Atlanta (just 2 hours away). Competitive salary and benefits. Contact W.C. Burrell, Personnel Director or Debbie Cowan, Pharmacy Director at 704-524-8411 for an application or send resume to Personnel Department, Angel Community Hospital, P.O. Box 1209, Franklin, NC 28734.

PHARMACY MANAGER: Rowan Memorial Hospital is a progressive 301 bed general medical and acute care facility in Salisbury, NC. We are conveniently located to Charlotte, Winston-Salem, Greensboro and our community offers a wide range of activities and a comfortable, affordable lifestyle. RMH maintains a modern, well-equipped pharmacy that offers 24 hour unit dose and IV admixture services and utilizes a computerized MAR system. We also have a developing clinical pharmacy program. NC pharmacy license or eligible required. Hospital experience preferred. Assistance with interview and relocation expenses available. For more information contact: Mary Wilson, Employment Coordinator, Rowan Memorial Hospital, 612 Mocksville Ave., Salisbury, NC 28144 or call 704-638-1079.

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Community Pharmacist Positions

PHARMACISTS WANTED: Kerr Drug Stores has positions available for Pharmacists in many NC areas. Kerr Drug offers opportunity for growth into store management. Excellent benefits. Send resume to: Jimmy Jackson, P.O. Box 61000, Raleigh, NC 27661 or call 919-872-5710.

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PHARMACIST NEEDED: Due to OBRA '90 regulations and statutes Medical Center Pharmacy, Inc. of Hickory NC is in need of a professional pharmacist with good counseling and patient interaction skills who understands what it means to be an independent community health provider. We provide a competitive salary and benefits package not to mention the added benefit of working just every 3rd weekend. Serious applicants should submit a short resume to: Medical Center Pharmacy, P.O. Box 1627, Hickory, NC 28603 or 704-322-7717.

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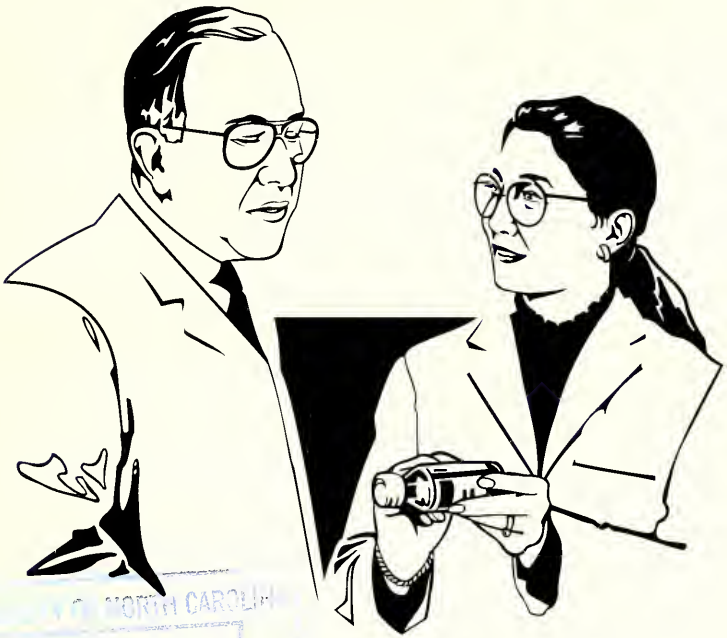

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The Art of Patient Counseling

One-half of all Americans take their medication incorrectly. They take it at the wrong time, in the wrong dosage, or take it concurrently with other drugs that interact.

Reports have demonstrated that patients expect personal attention and professional service from the pharmacist. Popular magazines and pharmaceutical association notices encourage the public to consult a pharmacist about their drug questions. Many physicians and even the FDA are advising Americans to establish a good rapport with a pharmacist.

This article examines pharmacist/patient communication. It illustrates the level of communication that currently exists, and offers suggestions for improvement.

Pharmacists Talk to Their Patients

Pharmacists may have convinced themselves that they do communicate drug information to their patients. Most pharmacists talk to their patrons. They often begin an encounter with, "Hi, how are you?" or "May I help you?" While completing the transaction they may inquire about the patient's family, or comment about the weather, sporting events, or the world political turmoil. As they hand over the prescription, perhaps enclosed in a paper bag, they announce the price and say, "Your doctor says you should take one tablet stat, then three times a day. Call me if you have any questions about your script. And thank you for your business."

True indeed! The pharmacist talked to the patient and communicated his appreciation for shopping the pharmacy. But throughout the encounter, how much actual communicating of health-related information actually transpired? Did the patient truly understand what his medication was for? Did he understand what "stat" and "three times a day" meant? And what about OTC products or food or alcoholic beverage interactions? The patient may not think about these questions until he is ready to take his medication.

The 1975 Mills Commission Report indicated that pharmacists of the future will functions as transmitters of information. The Commission reported that "the greatest failing of pharmacy is its inadequacy as an information transmitting system." It urged pharmacists to command principles of communication and use them because future pharmacists will dispense more information than medicine. Unfortunately, studies have shown that as little as 5 to 6 percent of pharmacists' time is actually spent in consulting with patients.

Unconvinced that American consumers want more personal consultation and information? Then browse the shelves of any bookstore. Dozens of books have been written for the lay public that give specific information on prescription and OTC drug items. In fact, the Physicians Desk Reference (PDR) is one of the books most often purchased by consumers and consulted in libraries across the country. It has appeared in the "top 10" list of bestsellers numerous times.

The pharmacy literature stresses that good pharmacist/patient communication is paramount to professional practice today. Speakers at professional meetings also encourage good communication.

This information may be misleading to pharmacists who are interested in promoting communication. Communication specialists often assume that pharmacists can spend unlimited cash to hire others to perform many of the duties that will give them time to communicate, or to rearrange the pharmacy layout and purchase necessary furnishings. They also assume that pharmacists have time to attend college classes to learn basic communication skills, or that all pharmacists can instantly communicate effectively with all their patients. This article presumes none of these.

Move Buffers and Barriers

Pharmacists' work areas have evolved around numerous barriers to good communication. Clerks represent one of the greatest barriers. A clerk assigned to the prescription receiving area may be the only person the patient encounters. The clerk meets and greets the patient, transmits the prescription to the pharmacist, then often returns the medication to the patient who then questions the clerk and the pharmacist is never involved in the counseling process. Unfortunately, neither patient nor clerk knows what questions or information are pertinent. The pharmacist then is actually dispensing to the clerk.

The prescription countertop is another barrier. Typically 4 to 5 feet high and 2 to 3 feet deep, this structure effectively shields the pharmacist from his patients. It is frequently topped with promotional displays or lined along the rear with fast moving prescription items and a backlog of third-party record forms and remnants of yesterday's lunch. The poor patient just doesn't have a chance to communicate in this setting.

Then too, a raised platform behind this counter may elevate the pharmacists to observe store activities and certainly raises them to positions of authority. But this subconsciously intimidates patients so they do not feel comfortable communicating on a one-to-one basis. Thus the setting for poor communication is further fostered.

Table 1 lists other barriers that interfere with open and effective communication. Many are obvious; others may not be. They should be identified and removed. Usually little or no expense is involved. Wholesaler merchandise can often be received in another section of the pharmacy or kept out of sight until it can be put away. Seasonal display units that require floor space can be moved away from the pharmacy area. All other displays, signs, and objects that may distract a patient during communication should also be moved.

Merchandise and displays can be removed from the top of the prescription counter and better yet pharmacists can come out from behind the counter and stand at eye level with their patients to communicate with them.

Clerks can be instructed to receive and transmit a patient's prescriptions, but the medications should be dispensed directly by the pharmacist. This same clerk can engage in conversation with other patients who are waiting, to help temper their anxiety about having to wait for the pharmacist. More importantly, this makes the person the pharmacist is currently serving feel more relaxed. High anxiety is correlated with low recall. Clerks should be instructed to answer all questions that do not relate to drugs or disease. The clerk's answer may be inadequate, incomplete, or even incorrect! Such questions should only be answered by the pharmacist.

Make The Time

Moving barriers and clearing the aisles are easy. Finding the extra time to spend counseling patients is another matter. An average patient counseling session should not require more than 1 to 2 minutes. Multiplied by the number of patients needing it, however, the time does add up.

First, time is not found. It is made! Appoint another person to handle nonprofessional chores such as routine mail opening, stocking and dusting, checking in orders, building displays and answering the telephone. Even responsibilities such as completing third party forms and price changing can be delegated to a trusted clerk. Professional journals and reading material can be taken home to study.

Ask a pharmacist colleague to spend a few hours observing you in order to recommend specific areas where a change in operation will produce significant time savings. Maybe you can return the favor to them or to another colleague.

Set definite goals for each day and prioritize them. List them on a 3x5 card, and keep it in view throughout the day. Proceed according to this schedule. Time efficiency experts claim that many minutes will be added to each working day by having activities planned in advance. These added minutes can then be devoted to patient counseling.

Many pharmacy journal advertisements and other printed pieces contain diagrams, figures and pictures that make excellent reference

material for patient counseling use. Start a filing system for such information and keep it current. Use this to demonstrate specific points to a patient. A description of how gastric acid secretion is halted by an H2 blocker, for example, or how to correctly brush and floss the teeth will be more easily understood, and retained longer, when such illustrations are used.

The total time needed with each patient may be decreased by not having to verbalize some concepts. Only material that is easily understood and figures that are clear should be used. Extraneous words and artwork can be unecessarily distracting and confusing, and can tie up the pharmacist in irrelevant discussions

Clear off the prescription counter work area. If there is not a separate office area or desk, set aside an unused portion of the prescription counter to serve this function. Separate it from the area devoted to prescription activities. Do not waste time repeatedly searching for items that are usually under piles of papers, advertising copy, books, order forms and other collectables. Items that aren't used each day should be moved elsewhere, out of the way. More precious minutes are gained this way.

Schedule patient visits. Many days have periods that are busier than others. During these rushed times, counseling patients may be especially difficult. The following suggestion isn't appropriate for every patient, but it will work for some.

First, keep an accurate record of prescription filling activity during each 30 minute segment for the next 2 to 3 weeks. Record the number of prescriptions filled and indicate whether they are new or refills. A definite pattern of activity should emerge. Then, suggest to selected individuals who normally bring in refills during these busy periods that they may wish to come at another time. Or, ask them to call in their refill prescription number(s) in advance. When they do come in, you can spend more time discussing their health questions and drugs.

In one survey of pharmacy patients, 70 percent admitted that if the pharmacist looked extremely busy, they would not bother him with questions. And the majority indicated that unless more pressing circumstances prevailed, they would gladly come to the pharmacy when the pharmacist was not busy.

Table: Types of Questions

Open Ended:
Good way to open conversation. Example: "What other medication are you taking?" Questions cannot be answered yes or no.

Close Ended:
Answered yes or no. Best to avoid since patient is forced into one of two answers.

Direct:
Use when more specific information is needed. Example: "You mentioned that the directions were not clear. Which specific part is not clear?"

Reflective
Questions begin by commenting on the last few words of patient's statement. If patient remarks, "These tablets made me feel nauseous," then a reflective question could begin. "You feel nauseous?" question would bring out more detailed information. People may feel positive about this type of questioning since it shows the pharmacist is really listening to them.

Say It Correctly

Health professionals communicate through a common language that is understood by other health practitioners. But it may mean little or nothing to a patient. Imagine a patient casually being told to take a "stat" dose of medication, or to take it "pc!" Pharmacists casually tell their patient "The 'sig' on your script is..." and so on. Even medical terminology such as pediculosis, tinnitus, hyperkalemia or hypertension may confuse the patient.

But don't talk down to patients either. Use terms they can understand. Start by putting them at ease and tell them you are interested in making sure they fully understand the directions.

Learn to communicate the ideas you want stressed and to elicit the specific information you need from a patient. *(See Table on page 7)*

Label Instructions

Instructions on the label are also open for misinterpretation. Prescription labels that otherwise seem clear to both pharmacist and patient at the time of dispensing may be confusing at the time of administration.

A study illustrated this point: outpatients in a clinic pharmacy were asked to interpret the labels on each of ten prescriptions. The labels contained commonly used phrases. For a prescription for propoxyphene HCl for example, patients were instructed to "Take one capsule every four hours as needed for pain." They were encouraged to question the pharmacist to help clarify the directions. Questions relating to effectiveness, side effects, refills, drug interactions and other warnings and precautions were asked. But no one asked what "as needed" meant.

The patients were then asked to assume they took a capsule at 8 a.m. If pain were still present at 10 a.m., could another dose be taken? Approximately 20 percent responded affirmatively. In fact, when they were asked to state how many capsules could be taken each day, about half responded incorrectly with answers ranging from two to eight.

In another investigation, patients were asked to interpret the meaning of a label affixed to their antihypertensive medication which stated, "This prescription cannot be refilled." Seven percent believed it meant that the medication did not need to be taken any longer.

Similar confusion in label instructions still exists for some OTC products. For example, one young girl believed that the contraceptive jelly she purchased was to be spread on her breakfast toast. Months later when she learned otherwise, she also discovered why she had become a mother.

Pharmacists should not assume that patients understand even the most simple terminology. In fact, the major reason people do not take their medicine correctly is that they do not understand the directions. The pharmacist should explain the directions for prescription items and OTC medications, and use language the patient understands. They should then ask that this information be repeated by the patient in his own words.

Nonverbal Communication

The unspoken word is often more suggestive than the spoken. People judge others by the visual impressions they leave. It was shown in one study that only 5 percent of an overall message is conveyed by the spoken word, 55 percent is transmitted by tone and facial expression, and 40 percent by body language.

Pharmacists who display a perpetually bewildered look, or always refer to a book or microfiche before answering a question, or constantly clear their throat before talking or keep their head bowed with eyes directed to the floor while talking, may give the impression that they do not know what they're doing. Even small gestures such as furrowing the brow or scratching the head while studying the prescription may send negative vibrations to the patient.

Authors: Thomas A. Gossel, R.Ph., Ph.D., Professor of Pharmacology and Toxicology, Ohio Northern University, Ada, Ohio and J. Richard Wuest, R.Ph., Pharm.D., Professor of Clinical Pharmacy, University of Cincinnati, Cincinnati, Ohio.

NEW TENANTS AT THE INSTITUTE OF PHARMACY

Effective immediately, the North Carolina Society of Hospital Pharmacists' (NCSHP) headquarters is located on the ground floor of the Institute. Remodeling of the ground floor was recently completed and the Society is leasing one of the rooms for their office. This is a long-time arrangement based on mutual needs and convenience to both NCPhA and NCSHP.

The new telephone number for NCSHP is 919-933-6760. The Career Line number remains the same, 919-967-8980.

NORTH CAROLINA SOCIETY OF HOSPITAL
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PHARMACISTS

HASSLE-FREE RETURN GOODS POLICY

Marion Merrell Dow recently introduced its new "hassle-free" return goods policy, guaranteeing reimbursement for all returned Marion Merrell Dow prescription products, including packages or bottles which are expired, unexpired, damaged, open or partially used.

Marion Merrell Dow customers returning prescription products are encouraged to contact either the local Marion Merrell Dow representative or the Return Goods Depearment for assistance. The Return Goods Department can be contacted at 1-800-545-4211, or FAX 1-816-966-3820, between 8 a.m. and 4:30 p.m. (Central Standard Time). Marion Merrell Dow associates will assist you with returns and can provide return forms and shipping labels to record product returns prior to mailing.

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BETTER COMPLIANCE AND MEDICINE USE: MAKING IT HAPPEN

by Robert M. Bachman, Executive Director
National Council on Patient Information and Education

Imagine a public health scenario in which health professionals regularly counseled patients about their prescriptions, and virtually all patients took their medications as prescribed. Think about the profound impact these behaviors would have on health outcomes, patient well-being, health care utilization and costs, and employee productivity. This dramatic vision of a healthier America, which requires no new medical breakthroughs to achieve, is a powerful motivation for change.

With noncompliance averaging 50% today, and 70% of patients reporting inadequate medicine counseling, is this vision within our reach? Can we overcome problems that are as old as the practice of medicine?

The National Council on Patient Information and Education (NCPIE) believes the answer to both questions is YES. For the past 10 years, the 260 health professional, government, consumer, and industry organizations that make up the Council have taken hundreds of positive steps to improve medicine use. Our primary focus: to improve patient-professional communication about prescription medicines. As a result of this decade of action, America has shown that it has what it takes to make a new kind of health breakthrough, whose importance cannot be overstated. Three critical advances underlie today's opportunities:

1. We now understand the complexity of the compliance problem.

Patient communication and treatment compliance are personal actions that depend on human knowledge, attitudes, and behavior patterns. After 10 years of exploration and research synthesis, we have a much clearer picture of the complex context within which medicine use occurs. By recognizing key variables, health care providers can tailor compliance-promotion activities to meet specific needs. For example, targeting can occur:

• *By patient group.* Medicine use issues vary by age, sex, and educational status. Some examples:

Children (0–18) rely on parental supervision and monitoring of medicine use, but they also need role models, education, and encouragement to develop good medicine habits.

Working Age Adults (19–64) are the largest population using medicines, but many have negative attitudes about taking them. They want more information about medicines, and they need it—improper medicine use costs employers and the economy millions of dollars each year.

Older Adults (65 and over) use the greatest proportion of medicines. Improving their health through proper medicine use involves overcoming a variety of age-related communication, physiologic, and health system barriers.

Women take more medicines than men. They have special needs related to reproduction and unique medicine concerns at each stage of life. Women also often assume the role of family medicine manager/caregiver and must have accurate information on the medicines of those they care for.

Low-Literate patients need special types of communication and support for proper medicine use.

• *By health profession.* Pharmacists, physicians, nurses, and other health professionals each have different potential roles in, and barriers to, patient communication and compliance-promotion. For example, most patients prefer to get medicine information from their physician at the time of diagnosis and prescribing. Pharmacists have the "teachable moment" in medicine counseling. When patients get to the pharmacy, they may ask questions they forgot to ask the doctor or want advice on compliance aids the pharmacy sells.

• *By setting.* Hospitals, private and group physician practices, managed care organizations, community pharmacies, worksites, and community groups can all contribute to better medicine use, but their systems are unique and their roles can vary.

• *By disease (s).* Each health problem requiring medicine therapy has specific priorities and problems. Studies show, for example, that failure to complete antibiotic therapy can be a significant acute care problem. Chronic diseases and multiple medicine use present even greater compliance difficulties. While the multidimensional nature of the problem is a challenge, it is also an opportunity for collaborative action. Many players and many approaches can combine to create solutions.

2. We have the momentum; safe and effective medicine is becoming a national health priority. Over the years, many concerned researchers, health care organizations and companies, health professionals, educational programs, and consumers have worked individually to try to solve compliance problems. Until recently, however, educational and behavioral issues have received fragmented attention, often as a subsidiary component of a disease-specific intervention.

Today, however, better communication and compliance are becoming a national health priority. The following examples illustrate the broad-based momentum for change.

• U.S. Food and Drug Administration (FDA) Commissioner David Kessler has called for a national professional education initiative to promote better patient-professional communication about medicine. In a recent article in the *New England Journal of Medicine* he stated "the FDA cannot ignore the large-scale inappropriate use of drugs whose safety and efficacy are its responsibility." Dr. Kessler challenged health professionals to take responsibility for giving patients the verbal and written medicine information they need. "In my view," Dr. Kessler asserted, "bridging the information gap is a matter of high priority for consumers, providers, and the FDA." Dr. Kessler has emphasized NCPIE's role in the collaborative process, as well as the potential for computer technology to efficiently supplement verbal counseling from health professionals.

• The U.S. Department of Health and Human Services (DHHS) in its 1991 report "Healthy People 2000, National Health Promotion and Disease Prevention Objectives," has set many goals for the nation's health that depend on better medicine use. Three objectives focus directly on the safe use of medicines, including increasing communication between health care providers and older patients and taking actions to avoid drug interactions and overdoses.

DHHS Secretary Dr. Louis Sullivan has also emphasized these priorities through his active support of NCPIE initiatives such as the *National Brown Bag Medicine Review Program* and the "Speak Up for Children" campaign to improve children's medicine use.

• State medical societies have begun sponsoring "brown bag" programs, urging physicians to conduct medicine reviews for their patients, especially older adults.

• National physician organizations have developed programs to help their members communicate with patients more effectively.

• The standards of practice for the profession of pharmacy now include statements about the pharmacist's responsibility for giving information to patients.

• The U.S. Congress recognized the role that pharmacists can offer in counseling patients through the recently enacted federal legislation entitled "The Omnibus Budget Reconciliation Act of 1990."

• At least 21 states have adopted requirements that pharmacists counsel all patients, not just Medicaid recipients.

These trends all reflect the increasing emphasis placed on safe and effective medicine use in the nation's health agenda.

3. We have the tools and resources to enable improvement.

During the past 10 years, concerned organizations have developed an enormous number of programs and products that facilitate information, education, and compliance. Among these are written patient and professional education materials targeted to every audience, including those with low literacy skills; interactive tools, such as patient contracts;

audiovisual and computer-aided patient education products; high- and low-tech compliance aids; written and computerized reference materials for health professionals; software systems that facilitate pharmacy monitoring for drug interactions and compliance; innovative professional education programs that build key communication skills; research-based reports exploring the problem and its solutions; and media approaches to raising public awareness of the issue. This rich resource base provides the tools and the techniques that can create positive change.

Taking Action

How can these advances be used to ensure that patients get the information they need to use their medicines safely and effectively? FDA Commissioner Kessler says that improving communication "is not a matter of principle, but of implementation." While few dispute the need, he says, only committed, concerted actions will make it happen.

The slogan *"Communicate Before You Medicate,"* is a simple statement with profound implications for every major public health problem—and every household—in America. Today's health care providers have got what it takes to make this slogan a reality. With the will and commitment to use it, the impact on American health can be revolutionary.

To Achieve Better Compliance

WE MUST IMPROVE:

Patient Knowledge About Medicines

In recent surveys and studies:

- 50% of patients didn't know the correct dose of their medicine.
- 38% didn't know the correct timing of their doses.
- 69% were not well-informed about potential side effects.

Consumer Attitudes About Medicines

- More than 60% are "highly concerned" about dependence on medications, taking unneeded medications, and society's being "overprescribed."
- 80% of consumers say they take less medicine than the doctor prescribes.
- 10% of all consumers ages 25-43 say they avoid medicines altogether.

The Quality of Patient-Professional Interactions

- 72% say they were inadequately informed about medicines in general.
- In a series of 221 patient interviews, only 19 patients said their physician had asked if they had questions.
- Patients sometimes report distracting health professional behaviors, such as: being cut off in mid-sentence; lack of eye contact; or the professional looking at his/her watch while the patient is speaking.

BARRIERS WE FACE:

In a 1992 survey, NCPIE members listed the following barriers most often:

- The health care professional's lack of time to counsel patients.
- Health facilities generally aren't designed to support education and counseling (eg, high counters between pharmacists and patients, lack of AV and computer equipment in physician's offices).
- Lack of reimbursement for patient education, particularly for pharmacists.
- Lack of emphasis on medicine communication issues in both health professional training and public schools.

ENCOURAGING TRENDS:

- Most patients say they want more information about their medicines.
- Most physicians and pharmacists believe communication is important. During the typical 10-hour workday, independent retail pharmacists spend 18% of their time (nearly two hours) counseling patients. They also call physicians 13 times a day and receive at least 10 calls from physicians.
- Consumers believe physicians and pharmacists are the most credible sources of medicine information. Pharmacists most often counsel patients about side effects, use of alcohol, timing of dosage, and how to administer.

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PATIENT COUNSELING

Denise Stanford Haskell

The North Carolina Board of Pharmacy has adopted a rule, effective January 4, 1993, requiring all pharmacists to counsel patients regarding their prescriptions. The rule originated from the Omnibus Budget Reconciliation Act of 1990 (OBRA '90) requiring counseling by pharmacists for all patients receiving prescriptions paid by Medicaid. By rule, the Board of Pharmacy has extended these counseling services to all citizens of North Carolina. The adoption of this rule was necessary to ensure that all patients are adequately informed about their prescription medications.

The rule applies to all pharmacists and registrants under G.S. 90-85.21, but certain activities required under the rule may be delegated to ancillary personnel. For example, a non-pharmacist may extend an offer to counsel, but the pharmacist must personally conduct counseling if an offer is accepted. In addition, ancillary personnel may collect, record, and obtain patient profile information; however, it is solely the pharmacist's responsibility to review and interpret patient profile information and clarify confusing or conflicting information. The Pharmacy Board is considering amending its definition of pharmacy intern to allow pharmacy interns to counsel patients as well.

One issue that has arisen under the patient counseling rule is when should the offer to counsel take place–when the prescription is presented or when the medication is delivered to the patient? According to the Board of Pharmacy, the offer to counsel may occur either when the prescription is presented or when the medication is delivered.

Another issue that has arisen is whether record keeping is actually required under the rule. All patient information obtained should be documented. A pharmacist may wish to document the information which he actually gives the patient; however, this is not required under the rule. It is the Pharmacy Board's opinion that only departures from the rule must be documented. For example, if the patient refused counseling, such refusal should be documented. All records generated as a result of this rule must be maintained for three years.

In providing counseling, a pharmacist should take actions to ensure that counseling is conducted in a confidential manner. Although this issue is not addressed in the patient counseling rule, it is imperative that pharmacists counseling patients maintain each patient's privacy.

The following are differences between our patient counseling rule and patient counseling requirements under OBRA '90:

1. Our rule applies to all patients receiving prescriptions. OBRA only applies to Medicaid prescriptions.

2. Our rule applies to pharmacists and to registrants under G.S. 90-85.21, which includes doctors who dispense prescription drugs for a fee. OBRA only requires pharmacists to counsel.

3. Our rule requires that an offer to counsel be made on transfer prescriptions. An offer to counsel on refills need only be made if necessary, in the pharmacist's professional judgment.

OBRA does not address transfer prescriptions or refills, but does require counseling for each prescription presented.

4. Our rule requires that an offer to counsel should be communicated in a positive manner to encourage acceptance. OBRA does not address this issue.

5. Our rule allows for alternative forms of patient information to be used to supplement patient counseling. OBRA does not address this issue.

6. Our rule requires mail order pharmacies to provide counseling in accordance with our rule. OBRA does not specifically address mail order pharmacies but provides for counseling through access to a telephone service which is toll-free for long-distance calls.

7. Our rule requires patient counseling records to be maintained for three years. OBRA does require records to be maintained but does not specify for how long.

The patient counseling rule will have a far-reaching impact on the citizens of North Carolina. Its adoption will allow pharmacists to further benefit the people they serve.

Denise Stanford Haskell, J.D., is an associate with Bailey & Dixon, a Raleigh law firm.

WELCOME NEW MEMBERS

The following persons have become new members of NCPhA since the publication of our last journal issue. They have joined more than 2,600 colleagues in the Association who are committed to advancing pharmacy in North Carolina.

Janet S. Amy, Cary
Russ Dillard, Rocky Mount
Richard V. Kennerly, Lexington
Andrea L.C. Mason, Durham
Miles H. Purser, Bayboro
George L. Sox, Boone
Darrell Avery, Wilson
Cynthia Creech, LaGrange
Michael M. Desist, Raeford
Amanda J. Grant, Wilmington
JoAnn Seymour Moss, Burlington
Jeffrey Nunnery, Shelby
Fred J. Parmesano, Winston-Salem
Bea Young Smith, Lenoir
Jeffrey J. Smith, Lenoir
Alise E. Woodruff, San Francisco CA
Patricia K. Worthington, Wake Forest
Roland E. Tate, Shelby
Linda T. Cross, Raleigh
Angela A. Elkins, Troy
Amy L. Greeson, Anchorage AK
Charles Norris, Mt. Olive
Julienne B. Orr, Raleigh
Thomas Owens, Whiteville
Bert Plemmons, Davidson
Paula Anderson, Greenville
Debra L. Capps, Marshall
Wendy J. Carr, Steadman
Nancy Eason, Salisbury
William E. Fisher, Matthews
Lynda Frazier, Oxford
Amy Funderburk, Winston-Salem
Don Hamilton, Washington
Karen Harrell-Tosto, Atlantic Beach
Patricia W. Mallard, Raleigh
Charlotte Mize, Greensboro
William R. Mize, Jr., Greensboro
Prahlad N. Prajapati, High Point
Donna B. Rivenbark, High Point
Renee Taylor Steward, Mebane
Larry H. Young, Cary
John D. Miller, Hickory
Bill Hollamon, Spruce Pine
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Stephen W. Fuller, Salisbury
Christine E. Grainger, APO AE
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Carolyn D. Miller, Durhan
Gene McBride, Carrboro

REPORT OF THE NCPHA STATE LEGISLATIVE COMMITTEE

The NCPhA State Legislation Committee had its initial meeting on November 22, 1992. Co-Chairmen Frank Burton and Mike James noted a quorum was present and thanked everyone for their attendance. Burton then called on NCPhA Lobbyist Virgil McBride to give the committee a report on what would be the make-up and the "mood" of the 1993 General Assembly. McBride noted that election defeat and retirement of incumbents had resulted in 55 new members being elected to the House and Senate. The leadership in both branches is expected, however, to remain relatively the same. It is expected that the Hunt administration will be more influential on this General Assembly than was the Martin administration on the 91-92 Session. Once again, the overriding factor in getting any legislation passed will be how it impacts the severe budgetary contraints the General Assmebly must work within. It was stressed by McBride and other committee members that pharmacy would need a unified and coordinated effort in order to have any hope of achieving our legislative agenda in this 1993 Session.

Executive Director Al Mebane brought the committee members up to date on the plans for NCPhA's "Pharmacy Day at the NC Legislature" scheduled for February 25, 1993.

The committee then proceeded to the business of setting the legislative agenda that would be recommended to the NCPhA Executive Committee. Members reviewed the results of a survey that had been mailed to NCPhA members in which they were asked to rank their legislative priorities. Based on last year's carry-over agenda items and the results of this survey, the committee recommended the following for legislative action:

1. A "Pharmacy of Choice" bill that would apply to all health benefit plans that come under the NC Insurance Commission and that would assure that any pharmacy services benefit provided by these plans be open to participation by any pharmacy provider who agrees to the terms of the plan.

2. Mandatory registration with the NC Board of Pharmacy (and therefore required adherence to NC rules and regulations) of mail order pharmacy providers filling prescriptions for residents of NC.

3. Restriction of physician ownership of pharmacies.

4. Continue efforts to return the NC State Employee's Prescription Benefit Plan to an equitable reimbursement formula.

Some additional topics for possible legislative action were also discussed, but the committee decided to limit the agenda to these issues so as to maximize our efforts on these initiatives.

The committee on State Legislation next met, in joint session with the NCPhA Retail Pharmacy Committee, on January 31, 1993. After opening remarks by Mike James and Joe Edwards about NCPhA's legislative agenda, the committees finalized plans for NCPhA's Pharmacy Day at the Legislature. The proposed agenda for this day of lobbying was discussed, and what members of the legislature were being invited to speak at the breakfast and the legislative panel discussion. Virgil McBride offered some suggestions on questioning the panel members about pharmacy issues in a non-antagonistic manner.

There was much discussion about the issues to be lobbied in Raleigh on February 25. The State Legislation and Retail Pharmacy Committee members then voted to go on record recommending that discussions with legislators on Legislative Day be limited to the proposed bills on registration of mail order pharmacies with the NC Board of Pharmacy and guarantee of access to health insurance benefit pharmacy plans by any qualified provider. It was decided that we should, however, use this opportunity to defend the NC Medicaid dispensing fee and explain why the G-PAC report and resulting recommendations regarding the pharmacy dispensing fee are flawed.

Committee members were warned by Executive Director Mebane that much legislation affecting pharmacy may be introduced in the 1993 Session by others, and he suggested that NCPhA will need to be diligent in watching for bills that we want to support or oppose.

Following additional discussion of lobbying strategies and the particular "personality" of this General Assembly, this joint meeting with the Retail Pharmacy Committee was adjourned.

At the writing of this report, Pharmacy Day at the Legislature was by all accounts a huge success. Over 250 pharmacists and pharmacy students converged on our state capitol for this event. Some very influential members of the General Assembly took time from their busy schedules to come over to the Radisson Hotel to speak to the assembled group and many legislators were visited in their offices by their pharmacist constituents.

Senate Bill 885 guaranteeing equal access to pharmacy providers was introduced by Senator Sandy Sands of Reidsville, passed out of committee despite much rhetoric by opponents, and passed by the NC Senate with only one negative vote! The bill now is in the House of Representatives.

House Bill 862, requiring registration with the NC Board of Pharmacy of mail order pharmacies, is currently stalled in the House Committee on State Government because Chairman Hightower has refused to report the bill out to the House floor despite that committee's approval of the bill on May 6. Lobbying of committee members is currently underway to assure defeat of any changes Representative Hightower proposes.

Respectfully submitted,
J. Frank Burton, Co-Chairman

REPORT OF THE NCPHA RETAIL COMMUNITY PHARMACY COMMITTEE

NCPhA President Henry Smith formed the Retail Pharmacy Committee to address the needs of those members who believed NCPhA was straying from the special issues affecting retail pharmacy. He recognized the need for fencemending, and this committee is the result of conferences with pharmacists in the retail practice sites. The co-chairmen of this committee are very proud of the diligence and commitment of the members of our committee and the results which the committee produced.

In the first meeting, the committee created its statement of purpose: "The purpose of the NCPhA Retail Community Pharmacy Committee shall be to protect, maintain, and promote the economic and professional well being of all North Carolina pharmacists engaged in retail practice. The committee shall identify, research, and discuss the issues facing retail pharmacy and make recommendations to the Executive Committee of the NCPhA for appropriate action."

A significant amount of time was spent in identifying the issues facing retail pharmacy today and discussing solutions to problems presented by these issues. A survey was sent to all members of NCPhA polling the membership as to the priority issues for 1993. Results of that survey are included in this report. The committee discussed the following issues: freedom of access, Blue Cross/Blue Shield plans, state employees benefit plan, discriminatory pricing, Medicaid fee, physician ownership of pharmacies, physician dispensing, pharmacy manpower, mandatory patient counseling, mail order, dual degree (Pharm.D.), third party, sampling, indigent programs, formularies, manufacturing/dispensing, and crooked pharmacists (Goldpill).

Using the member survey and the issues identified in the committee's first meeting, the

following priority issues were selected for action in order of priority;

1. Freedom of Access—Draft bill using language of bills already passed in other states such as Arkansas and introduce in the 1993 General Assembly.

2. Mail-order—Draft bill to require the registration of out-of-state pharmacies that regularly distribute prescription medicines to citizens of NC through the mail and adherence to the rules and regulations of the NC Board of Pharmacy.

3. BCBSNC—Request letter be sent to and discussions be forthcoming with BCBSNC advocating pharmacy's input into future proposals.

4. Medicaid Fee—Support bill introduced in the 1992 Short Session of the NC Legislature.

5. Manufacturers' Discriminatory Pricing—Play a more active part at the national level in efforts to stop these practices.

6. Mandatory Patient Counseling—Several concerns arose regarding the implementation of this regulation, but the overwhelming consensus of the committee was positive.

Karen Thompson, Legislative Chairman of the UNC Chapter of Academy of Students of Pharmacy, presented a report on the joint venture with NCPhA in sponsoring Pharmacy Day in the Legislature to be held on February 25, 1993 in Raleigh. The committee offered its support of legislative day and its manpower for implementation. The committee also advocates that Legislative Day be an ongoing project.

The Retail Pharmacy Committee feels strongly that the NCPhA should develop a strategic plan. It offered its input into the NCPhA Strategic Planning Task Force meeting. The following items were of concern to the committee: Advocate a more effective political action plan, address the economic issues in pharmacy, enhance the professional image of pharmacy, involve more pharmacy students in the association, involve the local pharmacy associations at a more active level, encourage programs geared to individual pharmacist's problems in their day-to-day practice, and address national pharmacy issues.

In addition to our regularly scheduled meetings, the committee met jointly on two occasions with the Legislation Committee to develop political strategy. This produced a stronger unity of purpose, and the Retail Pharmacy Committee gave productive input to the political action plan of NCPhA.

The charge of the NCPhA Retail Community Pharmacy Committee was to meet often, debate vigorously, stand up for what we believe in, and be willing to do whatever it takes to make retail pharmacy in North Carolina more viable, more dynamic, and more profitable. We stand for a possibility of making a difference in our profession. The co-chairmen wish to thank the committee members for their hard work. We feel that this committee should be ongoing to maintain the momentum established by its first year of development and action.

Respectfully submitted,
Joey Edwards, Co-Chairman
Johnny Hogg, Co-Chairman

North Carolina Pharmacy Priority Issues for 1993

Results of a survey of the membership of the NCPhA regarding priority issues currently facing pharmacy, listed in order of importance:

1. Freedom of Choice or Patient Choice of Pharmacy Providers
2. Multi-tiered or Discriminatory Pricing
3. Mail Order
4. Third Party Programs
5. Patient Counseling Requirements
6. State Employees' (Retirees) Rx Benefit Plan
7. Blue Cross/Blue Shield
8. Entry-Level Pharmacy Degree (Pharm.D.)
9. Medicaid
10. (tie) Pharmacy Manpower
10. (tie) Programs for the Indigent Patient

PATIENTS NEED HELP UNDERSTANDING PRESCRIPTION PRICES

When faced with a $100 pricetag for a prescription, patients may react bitterly. This is what pharmacists often see when patients bring in prescriptions for newer, innovative drug products. Pharmacists may begin to believe that new drug products really are too expensive and may not try to explain the price. When interviewed, however, patients do see a value in such benefits as getting well faster, taking only one dose a day, and avoiding side effects.

A new 30-minutes video is available for use by local pharmacy groups, to help members understand the importance of counseling patients about prescription prices. It is titled "How Patients Feel About Prescription Medicine." It is the result of two two-hour focus groups with consumers conducted by an independent market research firm.

The first section of the video contains participants' comments about prescription prices, comments many pharmacists hear often. Part two examines patient behavior, as participants admit to discontinuing medicine once they feel better, price shopping among pharmacies, and owning Physicians' Desk References to check on medicines. The third part looks at "pharmaceutical care" and what is expected from pharmacies. The fourth section focuses on pharmaceutical manufacturers. They point out that prices of new medicines must be high in order to cover costs of such things as litigation, research, and review by the Food and Drug Administration. The last part shows that the benefits of new medicines are valued by consumers and that pharmacists can help patients deal with high-priced medicines.

Most pharmacists who have seen the video agree on at least two results. First, pharmacists who already provide the services wanted by the participants will feel good about what they do. Second, pharmacists are likely to understand that patients need counseling about prescription prices as well as about the medicines themselves.

A new accredited continuing education monograph is now available to help pharmacists counsel patients about prescription prices, and could be offered to those who attend local meetings where the video is shown. It is titled "Counseling Patients About Prescription Prices." This monograph helps pharmacists recognize perspectives they and their patients may hold about prescription prices. It emphasizes that the outcome of therapy may depend on what the patient understands about price. Data is provided about the cost of pharmaceuticals and about the consumption of health care. According to the monograph, some pharmacists have found that blaming the manufacturer can leave a bad impression of the pharmacy, whereas taking time to counsel patients about prescription prices can help them feel better about prices and create a more favorable image of the pharmacy.

Copies of the monograph and arrangements for showing the video can be secured through Lilly and Dista sales representatives.

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SCHERING REPORT XV TAKES AN INSIDE LOOK AT HOW PHARMACISTS VIEW THEIR PROFESSION

Although nine out of ten pharmacists are happy with their choice of pharmacy as a career, increased control by third-party providers and growth in mail-order prescription fulfillment have made some apprehensive about the future of the profession.

These were among the findings of a new, independent survey commissioned by Schering Laboratories.

"As the country moves toward establishing some kind of national health plan, pharmacists will play an increasingly vital and visible role in the health care system," said Dr. Jack Robbins, director, Pharmacy Affairs, Schering Laboratories. "It's especially fitting at this time to examine what pharmacists feel is right and wrong about their profession, and to search for ways to enhance the right and address the wrong."

Schering Report XV, "Is There Life After Pharmacy School?—An Inside Look at the Practice of Pharmacy," focuses on how well satisfied pharmacists are with their choice of pharmacy as a profession, their level of job satisfaction and how their duties shape their feelings—either negatively or positively—about their profession. The report also explores steps that pharmacists can take to improve their job satisfaction.

The study is based on interviews with 400 pharmacists in independent, chain, supermarket, mass merchandiser and department store pharmacies, as well as in hospitals and HMO's.

Asked to describe their overall satisfaction with the choice of pharmacy as a career, 51 percent of the pharmacists replied "completely satisfied" and 40 percent "somewhat satisfied." Nine out of ten pharmacists were happy with their career choice, with only one pharmacist in 10 totally dissatisfied.

The highest level of complete satisfaction (55%) was found among pharmacists working in chain and independent pharmacies. In supermarkets and department stores, the satisfaction levels were 46% and 36%, respectively. Among pharmacists working in department stores and mass merchandise outlets, a significant 16 percent voiced dissatisfaction with their profession.

Although no differences with respect to job satisfaction were apparent among pharmacy owners, managers or employees, gender did prove to be a factor. Fifty-seven percent of women but only 47 percent of men indicated complete satisfaction with pharmacy as a career choice.

The most frequently cited areas of dissatisfaction were third-party involvement (33%), customer relations (28%), working conditions (24%) and routine clerical work (13%).

Involvement by third-party providers was mentioned three times as often by pharmacists working in independents (53%) compared to pharmacists in chain pharmacies (18%). Not surprisingly, pharmacy owners and managers (40%) were more unhappy about dealing with third-party programs than their pharmacy employees (24%).

While customer relations was identified as a significant problem by 36% of chain store pharmacists, only 19% of independent store pharmacists agreed. Women pharmacists voiced more concerns in this area than men (35% versus 25%). One of the major complaints was consumers are often "too grouchy" with the pharmacist, especially about prescription prices.

Most dissatisfied about working conditions were pharmacists in department stores/mass merchandisers (46%) and supermarkets (39%). Among their primary complaints were long working hours and too-short or nonexistent breaks.

Showing the highest dissatisfaction with routine clerical tasks were hospital pharmacists, with 25 percent complaining about "being bogged down in paperwork."

The Schering Report revealed that fully half of the pharmacists interviewed expressed apprehension about the continuing growth of

third-party control of pharmacy. Pharmacists (some 18%) also acknowledged the growth of mail-order prescription fulfillment as a probable source of future frustration.

The study also looked at factors that led job-seeking pharmacists to select one pharmacy over another. Most pharmacists (57%) mentioned salary followed by benefits and other incentives (40%), hours (30%), location (28%) and "atmosphere" of the pharmacy (18%).

Notwithstanding pharmacists' overall satisfaction with their career choices, an anomaly arose when they were asked whether they would now prefer to work in a different profession altogether. A surprising 50 percent indicated that, given this choice, they would bid farewell to pharmacy and opt for a new field of endeavor.

There was, however, no clearcut pattern concerning that new career choice. About half mentioned "something" in the medical area, including a few who would opt to become dentists, podiatrists or veterinarians. Others would seek a completely new profession, like law.

Interestingly enough, at independent pharmacies, 55 percent of the pharmacists wanted to remain in pharmacy, contrasted with only 36 percent of pharmacy owners.

The Schering Report also asked pharmacists to list activities on which they would like to spend more time or less time. Given a choice, they would spend more time counseling patients on prescriptions (66%), reading professional journals (54%), providing advice to customers about non-drug products (47%), having discussions with physicians (37%), attending pharmaceutical association meetings (37%) and addressing non-medical groups like PTAs and social clubs (27%).

On the other hand, many pharmacists would be happier spending less time dealing with third-party payments (53%), handling cash and credit card transactions (51%), stocking shelves with products (48%), administrative activities (21%), speaking with sales representatives (19%), filling prescriptions (11%), and keeping prescription records up to date (10%).

In effect, many of the duties on which pharmacists want to spend less time involved the sometimes tedious but usually necessary tasks that keep a pharmacy going.

Robbins noted that a pharmacist's job satisfaction is colored by two factors that shape everyday performance. These are (1) accuracy on the part of superiors in defining what is expected on the job, and (2) performing up to those expectations. Accordingly, the Schering Report asked employee pharmacists to define the qualities that they believe their supervisors valued most. Their answers fell about equally into two areas: personal qualities (77%) and professional qualities (76%).

In effect, many of the duties on which pharmacists want to spend less time involved the sometimes tedious but usually necessary tasks that keep a pharmacy going.

Supervisors, when asked to name the attributes of an "ideal" employee pharmacist, also listed these qualities in almost precisely the same frequency (personal, 78%; professional, 77%). But significant variations emerged when the two groups were asked to rank the importance of the components within the same "quality" categories.

For example, in "professional qualities," employees said being customer-oriented was first in importance (39%), followed by competence (29%) and knowledge (24%). Supervisors placed slightly more emphasis (4%) on being customer-oriented and slightly less on competence, perhaps taking that trait for granted.

Employees thought promptness (27%) was the way to win a supervisor's approval, followed by honesty (23%) and pleasant personality (also 23%). To the supervisor, however, the number one characteristic was honesty (30%). Independent owners, in fact, thought honesty was even more important (45%). Among supervisors in general, promptness (25%) and pleasant personality (19%) were other admirable traits of the ideal pharmacist.

"Overall, the images of the ideal employee pharmacist held by pharmacists and their su-

pervisors aren't too far apart," said Robbins. "But those who aim to please might put some more stress on their dedication to customers and to demonstrating their on-the-job honesty."

On another subject—the advent of pharmacy technicians—76% of the pharmacists reported that their operations employ technicians in addition to pharmacists. Technicians were most common in hospitals (92%) and department/discount stores (also 92%), and less common in independents (70%) and supermarkets (62%). Technicians show up most often at pharmacies employing three or more pharmacists (80%), and in operations where each pharmacist must fill 75 or more prescriptions a day (84%).

By and large, pharmacists favored the use of technicians. Almost 75% said that technicians help pharmacists by filling prescriptions and doing routine tasks, thereby freeing them to perform the professional duties they have been trained to do, such as counseling patients.

Close to 45 percent of the pharmacists said that technicians perform clerical duties such as answering the telephone, serving as cashier, handling paperwork and records, typing and working the computer, stocking shelves and working with third-party forms.

By an overwhelming 97 percent, pharmacists agreed that technicians make their work easier. In fact, among pharmacists who currently work with technicians, the endorsement level was 99 percent, compared to 90 percent for those with no direct experience with technicians. Only 7 percent felt that technicians pose any kind of threat to pharmacists, and this sentiment came from pharmacists who do not presently work with technicians.

The Schering Report also addressed job dissatisfaction, especially job burnout, which three out of four pharmacists identified as a problem. Some pharmacists view burnout as a greater problem than do others; 77 percent of women, but only 70 percent of men; 83 percent in HMOs; 75 percent in department stores and supermarkets; 72 percent in independents; and 69 percent in chains and hospitals. In independent pharmacies, 80 percent of owner/managers expressed concern about burnout, compared to 63 percent of their employees.

Can anything be done to help pharmacists avoid burnout? Pharmacists interviewed in the study offered suggestions in three main areas:

- Scheduling: Better hours, more breaks, more convenient shifts (38%).
- Pharmacy technicians: Hire more "techs" to lighten the workload (28%).
- Knowledge/education: Give pharmacists greater learning opportunities; encourage them to use what they have already learned to better advantage (15%).

Looking to the future, about 62 percent of the pharmacists foresaw some negative changes immediately ahead in the pharmacy profession. Men (66%) were more pessimistic than their female counterparts (55%). Expectations were gloomiest at independents, where 84 percent of manager/owners and 71 percent of pharmacist employees saw roadblocks ahead. In contrast, only 44 percent of HMO and an equal number of hospital pharmacists noted some negatives.

On the positive side, 57 percent of the pharmacists expected one or more favorable developments in pharmacy over the next few years. They forecast positive changes in these areas:

- Patient counseling (53%). More, even mandatory, counseling is expected because of OBRA '90 (Omnibus Budget Reconciliation Act of 1990).
- Better education (12%).
- Control of health-care costs (10%).
- More computerized operations (9%).

Pharmacists who expressed satisfaction with their choice of profession showed above-average optimism (65%). In this category, women (63%) were more optimistic about the next few years than men (53%).

When pharmacists were asked how satisfied or dissatisfied they were with nine major aspects of their professional lives, there was a significant degree of dissatisfaction in only one area—insufficient time to keep up with new developments in pharmacy. Over one in three (37%) pharmacists expressed dissatisfaction on this point.

Of course, not every pharmacist was com-

pletely satisfied with the other eight aspects of the profession. Pharmacists who expressed complete satisfaction ranked them in this order:

- Relationship with co-workers (72%). Complete satisfaction was highest at independents (79%) and HMOs (78%). Managers (76%) felt they were getting along with their co-workers better than employees did (67%).
- Status and prestige as a pharmacist (45%). Pharmacists with more than 15 years experience were more likely to be completely satisfied with their status than pharmacists with fewer years on the job (54% versus 37%).
- Involvement in administrative decisions (35%). Employee pharmacists (20%) felt mostly left out here, compared to pharmacy owners and mangers (50%).
- Role in suggesting staff changes (33%). Here again, employees (20%) felt they were largely "out in the cold," while 45 percent of the owners and managers felt completely satisfied.
- Current salary (30%). Pharmacists working in department stores (36%) and HMOs (39%) were almost as content on the salary issue as pharmacists in independents (40%). But there was obvious frustration about paychecks at supermarkets (20%) and hospitals (19%).
- Policy decisions by management (28%). The level of satisfaction was two times higher at independents (46%) than at chains (22%). Pharmacists in department stores said they were rarely involved in policy decisions that affected them (12%).
- Opportunities for promotion (27%). Pharmacists in hospitals felt most "boxed in" (15%).
- Scheduled salary increases (21%). Pharmacists in HMOs (35%) were the most pleased with their salary schedules. Pharmacists' replies indicated that salaries increase faster at suburban pharmacies (26%) than at urban pharmacies (16%).

Commenting on the Schering Report, Robbins said, "Pharmacists need to be reassured that they are an integral part of the health-care team, not just employees. For many patients, they are the most accessible source of information about medications.

"This is an exciting time to be in the profession, with pharmacists enjoying a high degree of prestige among the general public. The task now is to do what is necessary to increase the pharmacist's own satisfaction on the job and with the profession."

A booklet summarizing the Schering Report may be obtained by writing the Pharmacy Affairs Department, Schering Laboratories, Kenilworth, N.J. 07033.

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CORRESPONDENCE COURSE

PATIENT COUNSELING
PART I: THE IMPACT OF OBRA '90

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Goals

The goals of this lesson are to discuss the background and basis for enactment of OBRA '90 (Omnibus Budget Reconciliation Act of 1990). It describes the basic structure of this legislation and resulting guidelines promulgated by the Health Care Financing Administration (HCFA), explains the requirements of pharmacists and discusses the state's role in the regulation of patient counseling and drug use.

Objectives

At the conclusion of this lesson, participants should be able to:

1. identify the purpose of OBRA '90 legislation, and define the following acronyms: OBRA, MADPA, HCFA, and DUR;
2. identify the agencies responsible for implementation and enforcement of OBRA '90 requirements;
3. demonstrate an understanding of the role of the state Boards of Pharmacy in carrying out the intent of the legislation; and,
4. select information required for the patient data record, problems to identify in a prospective drug utilization review (DUR), and requirements of patient counseling as defined by OBRA '90.

A major program that emphasizes improved patient consultation was initiated January 1, 1993. With implementation of OBRA '90 (the Omnibus Budget Reconciliation Act of 1990), pharmacy practice and patient care were affected to a much greater extent than with previous federal legislation.

OBRA '90 impacts nearly every facet of pharmacy practice. For some pharmacists, it is a major step forward for the profession. For others, it merely reinforces what they have already been doing, and affords them the opportunity to extend patient-oriented service even further. For still others, OBRA '90 is interpreted as continuing negative interference from the federal government that increases their cost of operation and intrudes into the business aspect of their practice.

The major intent of the law, however, is to recognize the professional expertise of pharmacists by alerting them to detect and prevent

potential drug therapy problems, to promote better health care by increasing the probability of more rational therapeutic outcomes, and to save taxpayers money.

The Omnibus Budget Reconciliation Act of 1990

The Omnibus Budget Reconciliation Act, which is tied into the Social Security Act, was passed by Congress in 1990. The act encompasses and affects many areas of federal funding assistance to states, including agriculture, banking, energy, health, transportation and pensions. The part which is most relevant to pharmacy practice is the Medicaid Antidiscriminatory Pricing and Patient Benefit Restoration Act (MADPA). This contains a number of provisions for pharmacists including the methods for reimbursement for Medicaid patients, the mandate for maintaining patient profiles and performing drug utilization reviews (DURs), undertaking patient counseling and government-sponsored educational programs, and the need to develop projects to determine the cost and effectiveness of patient counseling.

After the law was passed, responsibility for its implementation was entrusted to the Health Care Financing Administration (HCFA) (Figure 1). This agency establishes the rules for federally funded health care programs, such as Medicaid, and issues payment to the states for medical care of the needy. HCFA's function, as described in its mission statement, is to "promote timely and economic delivery of appropriate quality health care to eligible beneficiaries;" to "promote beneficiary awareness of the services for which they are eligible;" to "improve the access to those services;" and to "promote efficiency and quality within the total health care delivery system."

While HCFA initiated and published extensive guidelines on OBRA '90 outlining its interpretation of the law, its authority is based on monitoring what each state has established and determining whether the state is in compliance to receive federal funding. If not, federal funds will be withheld.

It is important to understand that neither HCFA nor the federal government can dictate standards for professional practice. This is because, in the United States, the authority to regulate health professionals belongs to each individual state through its licensing authority (i.e., state Board of Pharmacy), not the federal government. Thus, implementation of OBRA '90 requires cooperation between Congress, HCFA, state Boards of Pharmacy, state Medicaid Departments, health care professionals and patients.

OBRA '90 addresses the payment of federal funds for patients covered by Medicaid. Most, if not all, states will undoubtedly apply requirements for pharmacists to serve all patients. Otherwise, a two-tier system of healthcare would occur, with higher-level care being given to Medicaid patients. This is an untenable concept for both patients and the profession, as well as one that may be difficult to support from a legal viewpoint.

Paramount among the many goals of OBRA '90 is the desire to not merely detect potential therapeutic problems, but to prevent and resolve them. There is great anticipation that, with proper conscientious, patient-oriented practice, methods will be developed to help determine a system to reimburse pharmacists for their cognitive skills, rather than continuing with the current system of merely paying for dispensing a drug. This type of reimbursement has been talked and written about for many years but has not been universally realized at this point in time. And now, Congress has expressed its interest in payment for pharmacists' professional services that are not tied to the sale of a product.

Proper conscientious, patient-oriented practice includes pharmacists thinking about the total patient and his/her drug therapy when dispensing medication, and promoting a desire to prevent potential problems from occurring. It requires pharmacists making sure they obtain necessary information from patients with appropriate information about their medications to maximize compliance, minimize medication errors and increase the probability of therapeutic success.

All of these concepts may appear foreign, overwhelmingly unattainable and even contrary to what pharmacists were once taught in

their professional curricula (who remembers the concept of "counter-prescribing"?). Viewed from a positive perspective, however, the OBRA '90 requirements are attainable and they are what the public wants and needs. They are not negative requirements for pharmacists.

An explanation of the concepts and precepts contained in the HCFA guidelines for state participation in shared funding under the Omnibus Budget Reconciliation Act of 1990 is in order.

Specific Requirements

HCFA's guidelines, promulgated in November, 1992, mandate that each state, in order to obtain federal funds to provide outpatient drugs for needy patients, must enact a statute or regulation to establish standards for counseling individuals enrolled in the Medicaid program. This statute or regulation must be in effect no later than January 1, 1993, and contain a DUR program consisting of prospective drug review before prescriptions are filled. This must be followed by a state program of retroactive drug utilization review, with explicit predetermined standards and an educational program for providers.

The main purpose of these components of OBRA '90 is improved patient care and assurance that prescriptions are appropriate, medically necessary and unlikely to cause adverse reactions. Another major goal is to identify and reduce fraud, abuse, gross overuse and inappropriate or medically unnecessary drug therapy. While each state must determine its own criteria and methods for reviewing drug use, HCFA has announced that assessment of the data gathered must include, at very least, monitoring for therapeutic appropriateness,

Figure 1.
Flow Chart of OBRA '90 Activity

Social Security Act	"Where it all began."
↓	
Omnibus Budget Reconciliation Act of 1990 (OBRA)	The basic legislation. Addresses numerous areas of federal funding assistance to states such as agriculture, health, and pensions.
↓	
Medicaid Antidiscriminatory Pricing and Patient Benefit Restoration Act (MADPA)	Mandates patient profiles and counseling, drug use reviews, government-sponsored education programs, and studies to determine cost and effectiveness of patient counseling.
↓	
Health Care Financing Administration (HCFA)	Oversees implementation of OBRA '90 requirements.
↓	
State Boards of Pharmacy	Implement OBRA '90 via regulations according to pharmacy practice administrative codes of each state.
↓	
Pharmacists	Perform the functions mandated by OBRA '90.
↓	
Patients	Provided with better health care.

over- and under- utilization, therapeutic duplication, drug-disease and drug-drug interactions, incorrect dose or duration of drug treatment and appropriate use of generic drugs.

Under OBRA '90, each state must enact legislation or a regulation "requiring pharmacists to offer to discuss with each recipient or caregiver who presents a prescription, matters that the pharmacist, *exercising his or her professional judgment, deems significant.*" (Italics are provided by the authors.) The statute or regulation must further require pharmacists "to make a *reasonable effort* to obtain, record and maintain specific patient profile information." The "goal of the state's DUR program must be to ensure appropriate drug therapy while permitting *sufficient professional prerogatives to allow for individual therapy.*"

Each state, through its Board of Pharmacy or Medicaid authority, must provide pharmacies with detailed information as to what they must do to comply with the patient counseling, patient profile and prospective drug utilization review activities. Pharmacies, in turn, must provide this information to their pharmacists.

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HCFA is aware that, at this point in time, screening of patient medications will be done "without direct access to diagnosis information and details about disease conditions contained in medical records available in an inpatient environment." The legislation permits, however, and HCFA has announced its intention to foster and fund state initiatives to capture this type of information using a point of sale, interactive, computerized system.

Meanwhile, pharmacists are urged to gather as much patient-specific data as possible into their profiles and "based upon his or her professional judgment, consult physicians when appropriate, to obtain additional information." HCFA has also stated that, "We do not believe that pharmacists will incur additional liability as a result of performing prospective DUR."

Each state determines the specific requirements for its licensees. A synopsis of one state's proposed rules is presented to provide an example. There will be differences in detail from state to state, but the overall concepts will be similar nationwide. Pharmacists practicing in each state must review their own particular state Board of Pharmacy's or Medicaid Department's requirements in order to comply with the intent of OBRA '90.

Patient Profiles: One State's Proposed Rule

A reasonable effort will be made to record and obtain at least the following records:

1. The patient's data record, which shall consist of, but is not limited to, the following information:

a. full name of the patient for which the drug is intended;

b. address and telephone number of the patient;

c. patient's date of birth or age;

d. patient's gender;

e. a list of appropriate and current patient-specific data consisting of at least the following:

i. known drug-related allergies;

ii. previous drug reactions;

iii. history of or active chronic conditions or disease states;

iv. other drugs, including over-the-counter drugs, or devices obtained from that pharmacy;

f. the pharmacist's comments relevant to the individual patient's drug therapy including other information peculiar to the specific patient or drug;

g. any information to complete the patient data record that is given to the pharmacist by the patient or the caregiver shall be presumed to be accurate, unless there is reasonable cause to believe the information is inaccurate.

2. The patient drug therapy record with at least the following information:

a. name of the drug or device;

b. prescription number;

c. name and strength of drug;

d. quantity dispensed;

e. date dispensed;

f. name of the prescribing practitioner.

Prospective Drug Utilization Review: One State's Proposed Rule

Prior to dispensing any prescription, pharmacists shall review the patient profile for the purpose of identifying:

1. over-utilization or under-utilization;

2. therapeutic duplication;

3. drug-disease state contraindications;

4. drug-drug interactions;

5. incorrect drug dosage or duration of drug treatment;

6. drug-allergy interactions;

7. abuse/misuse

Upon recognizing any of the above, pharmacists, using professional judgment, shall take appropriate steps to avoid or resolve the potential conflict. These steps may include consulting with the prescribing practitioner and/or counseling the patient.

HCFA Definitions

Definitions have been provided by HCFA for the tasks involved in the prospective drug utilization review. They are described below.

Therapeutic Duplication—The prescribing and dispensing of two or more drugs from the same therapeutic class such that the combined daily dose puts the recipient at risk of an adverse medical result or incurs additional program costs without additional therapeutic benefit.

Drug–Disease Contraindication—The potential for, or the occurrence of an undesirable alteration of the therapeutic effect of a given prescription because of the presence, in the patient for whom it is prescribed, of a disease condition or the potential for, or the occurrence of, an adverse effect of the drug on the patient's disease condition.

Adverse-Drug Interaction—The potential for, or occurrence of, an adverse medical effect as a result of the recipient using two or more drugs together.

Incorrect Drug Dosage—The dosage lies outside the daily dosage range specified in predetermined standards (e.g., USP-DI) as necessary to achieve therapeutic benefit. Dosage range is the strength multiplied by the quantity dispensed divided by the days' supply.

Incorrect Duration of Drug Treatment—The number of days of prescribed therapy extends or falls short of the recommendations contained in the predetermined standards.

Drug-Allergy Interactions—The significant potential for, or the occurrence of, an allergic reaction as a result of drug therapy.

Patient Counseling: One State's Proposed Rule

The first paragraph of the sample state's proposed rule explains that the pharmacist or his designee shall personally offer to counsel patients or caregivers. The offer shall not be required, however, if in the professional judgment of the pharmacist, such counseling would be detrimental to the patient's well-being. Moreover, if the patient or caregiver is not physically present at the time of dispensing the prescription, offers shall be made by either the telephone or in writing with the major precept being that patients must be given a personal offer that they can be counseled if they so choose.

The rule goes on to state that *counseling may include, but is not limited to, the following:*

1. the name and description of the drug;

2. the dosage form, dose, route of administration, and duration of drug therapy;

3. the intended use of the drug and expected action when communicated to the pharmacist;

4. special directions and precautions for preparation, administration, and use by the patient;

5. common severe side or adverse effects or interactions and therapeutic contraindications that may occur, including possible methods to avoid them and the action required if they occur;

6. techniques for self-monitoring drug therapy;

7. proper storage;

8. prescription refill information;

9. action to be taken in the event of a missed

dose; and,

10. the pharmacist's comments relevant to the individual's drug therapy, including other information peculiar to the specific patient or drug.

The counseling criteria should not be interpreted as a list that needs to be checked off with each patient. Rather, the list provides pharmacists with minimum information that patients need to have about their prescriptions. Because each patient requires individualized care, the focus of counseling will vary from person to person.

Additional sections of the sample proposed rule state that, while basic counseling must be verbal *other forms of drug therapy information may be used when appropriate to supplement the counseling by the pharmacist. Examples of forms that may be used include, but are not limited to, drug product information leaflets, pictogram labels, and video programs.* This information can be used to supplement pharmacists' oral counseling, but it cannot substitute for it. Patient counseling is not required under OBRA '90 for patients in institutions and, finally, *the pharmacist shall not be required to counsel a patient or caregiver when the patient or caregiver refuses the offer of counseling or does not respond to the written offer to counsel.*

CONTINUING EDUCATION QUIZ
PATIENT COUNSELING, PART I: THE IMPACT OF OBRA '90

1. All of the following are included in OBRA '90 as they relate to pharmacy practice EXCEPT:
   a. maintaining patient medication profiles.
   b. reducing pharmacist involvement.
   c. performing drug utilization reviews.
   d. undertaking patient counseling.

2. The agency that has the authority to regulate professional pharmacy practice is the:
   a. state Board of Pharmacy.
   b. Drug Enforcement Agency.
   c. Food and Drug Administration.
   d. Health Care Financing Administration.

3. All of the following were major intentions of Congress with OBRA'90 legislation EXCEPT:
   a. prevention of drug therapy problems and adverse effects.
   b. better health care for the needy.
   c. relegating pharmacists to a lesser role.
   d. saving taxpayers money.

4. Which of the following laws is LEAST involved in the mandate for patient counseling and drug utilization review?
   a. Omnibus Budget Reconciliation Act of 1990
   b. Medicaid Antidiscriminatory Pricing and Patient Benefit Restoration Act
   c. Pure Food, Drug and Cosmetic Act
   d. Social Security Act

5. Proper conscientious, patient-oriented pharmacy practice requires all of the following tasks EXCEPT:
   a. thinking about the total patient when filling his/her prescriptions.
   b. monitoring prescription drug use but not bothering with OTC products.
   c. wanting to prevent drug-related problems before they occur.
   d. providing patients with appropriate information about their drugs.

6. The agency responsible for implementing the financial aspects of OBRA '90 is the:
   a. state Board of Pharmacy.
   b. Drug Enforcement Agency.
   c. Food and Drug Administration.
   d. Health Care Financing Administration.

7. All of the following are concepts and requirements contained in OBRA '90 legislation EXCEPT:
   a. pharmacists exercising professional judgment.
   b. making a reasonable effort to comply.
   c. increased pharmacist liability for performing prospective DUR.
   d. sufficient professional prerogatives to allow for individualized therapy.

8. To comply with stated requirements of prospective DUR, pharmacists shall review the patient's profile for all of the following EXCEPT:
   a. drug-allergy interactions.
   b. drug-food interactions.
   c. drug-drug interactions.
   d. drug-disease contraindications.

9. Which of the following must be a component of all patient counseling activities?
   a. Verbal counseling by the pharmacist
   b. Affixing pictogram labels to the container
   c. Dispensing patient information leaflets
   d. Using video instruction programs

(Note: There are only 9 questions with this lesson.)

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3. a b c d	6. a b c d	9. a b c d

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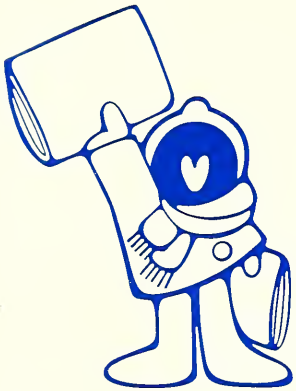

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Registration for the program is $300 per pharmacist. To reserve your spot send $100 deposit (refundable through October 31, 1993) to the Colorado Pharmacists Association, 7853 E. Arapahoe Ct., Suite 1500, Denver, CO 80112. Any questions, or for a program schedule, call Tom Gray, Executive Director of CPhA at 303-843-0835.

This Program Sponsored By The Colorado Pharmacists Association and the NCSPAE

RHONE-POULENC RORER ANNOUNCES INNOVATIVE CONTINUING EDUCATION PLAN FOR PHARMACISTS

Rhone-Poulenc Rorer (RPR) recently anounced an innovative Continuing Education plan for 1993 that addresses the unique educational needs of today's pharmacist. The program's components were designed by three independent Pharmacy Advisory Boards representing chain, community and local pharmacy.

"We must address emerging healthcare issues to keep pace with our changing environment," said Robert Usso, R.Ph., FACA, Director of Pharmacy Affairs at RPR. "Legislative initiatives, legal issues and pharmaco-economic data continue to impact the decision making of all pharmacists."

Based on input from Advisory panels, RPR created a focused CE plan that addresses important topics, ranging from OBRA '90 to Drug Utilization Review.

The OBRA '90 program, "Impact on Community Pharmacy," will help pharmacists understand the bill's economic impact. "Our panel members asked for information explaining how the new guidelines affect daily counseling of patients," said Uzzo. The program will also analyze the significance of related legislative issues. The first issue will be available in April.

"Therapeutic substitution and malpractice liability are topics on the top of everyone's mind these days," said Jesse Vivian, Pharm.D., J.D. and professor at Wayne State University. "The only problem is finding the time to address the issues," he added. In response, RPR refined an ongoing series called "Let's Talk" that answers questions about Pharmacy and the Law. The accredited program included a reply mechanism allowing pharmacists to receive a direct and personalized response from Dr. Vivian.

Panel members also emphasized the need for a National Speakers Bureau that addresses issues important to local pharmacists. "Pharmacists want speakers who can discuss a specific therapeutic area, legal issues or even how to make pharmaco-economic decisions," explained Uzzo. The result is a National Pharmacy Speakers Bureau that includes clinical Pharm.D.s and community pharmacists who are available to speak at national, state and local pharmacy meetings. All programs are accredited.

RPR will collaborate with Temple University this year on a four-credit hour program that features a section on Drug Utilization Review. The program will specifically discuss drug interactions from the perspective of a local pharmacist.

RPR has also aligned with the Kellogg School at Northwestern University to provide a special three-part program for healthcare executives. The program teaches core skills, such as management and development techniques and strategic planning.

"A targeted grants program will provide RPR with a vehicle to reach deserving members of the pharmacy community," said Uzzo. This year RPR will provide grants to National Pharmacy Societies and organizations geared towards the advancement of Pharmacy Practitioners. RPR will continue to sponsor the Senior Scholars program. Eligible participants qualify based on financial need, scholastic excellence and community involvement.

Each advisory board consists of pharmacy practitioners who conduct needs assessments for RPR.

FROM THE MAILBAG

Letter to the Editor
Charlotte Observer
Charlotte, NC

In response to your article on mail order pharmacy in the Monday, November 23, [1992] business page, permit me to point out the cost effectiveness of the neighborhood retail pharmacy. As your article accurately states, only seven cents out of each dollar spent for health care is spent on pharmaceuticals or product. When one focuses only on this product cost and ignores the importance of high quality pharmacy service to the total delivery of health care you miss the real savings pharmacy contributes.

The U.S. Congress has recognized pharmacy's potential to lower health care costs not by lowering prices, but by interacting with patients—face to face—to insure a better outcome from their drug treatment. In fact the North Carolina Board of Pharmacy has recently enacted rules that require "face to face counseling of patients on each new prescription."

FACT: It costs twice as much to treat a patient with high blood pressure who does not take his/her medication correctly as it does the patient who is compliant.

FACT: Nearly 10% of all hospital admissions and 25% of hospital admissions among the elderly are due to taking prescription medication incorrectly.

FACT: Each year an estimated 125,000 people die from improper use of heart medications alone.

FACT: As many as half of all patients with high blood pressure stop taking their medicine during the first year, after three years only one in three is compliant, and one in four patients who are non-compliant with their high blood pressure medications are hospitalized as a result of this non-compliance.

Is your mailman going to be able to explain how to correctly take your medicine? Can you wait until your medicine arrives through the mail?

What kind of storage conditions has your medicine been subject to while in transit? Does the pharmacy mailing your prescription into North Carolina observe North Carolina pharmacy laws? (The answer is no.) How much can I save? (A recent federal government study reported that mail order medications cost an average of 2 cents a day less than the same medicines from a neighborhood pharmacy.)

In closing, when one looks at prescription costs in terms of product only and does not look at the cost of extra hospitalizations, physician and/or emergency room visits and the cost of days absent from work, lower productivity while at work, and the cost of forced early retirement or early death due to non-compliance, then the neighborhood pharmacy looks better and better.

A prescription taken or used wrong is no bargain at any price.

Sincerely yours,

Wm. Whitaker Moose
Vice President, NC Board of Pharmacy

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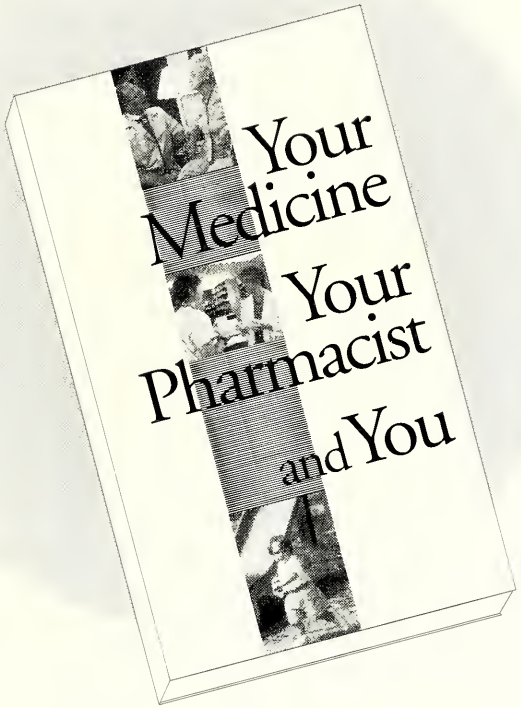

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From the White House to the state house, health care will be one of the hottest topics in the news this year. So why not take advantage of the timeliness of the topic to show "Your Medicine, Your Pharmacist and You" to as many audiences as possible in your community in the coming months.

It features officers of the American Pharmaceutical Association such as Executive Vice President John Gans, Pharm.D., community pharmacists, and other major voices in the health care community.

So order your copy of "Your Medicine, Your Pharmacist and You" today from your state pharmacy association, or from APhA by calling 1-800-237-APHA. It comes with a complete presenter's guide which includes sample news releases, introduction, and a directory of civic organizations with chapters or affiliates in your community.

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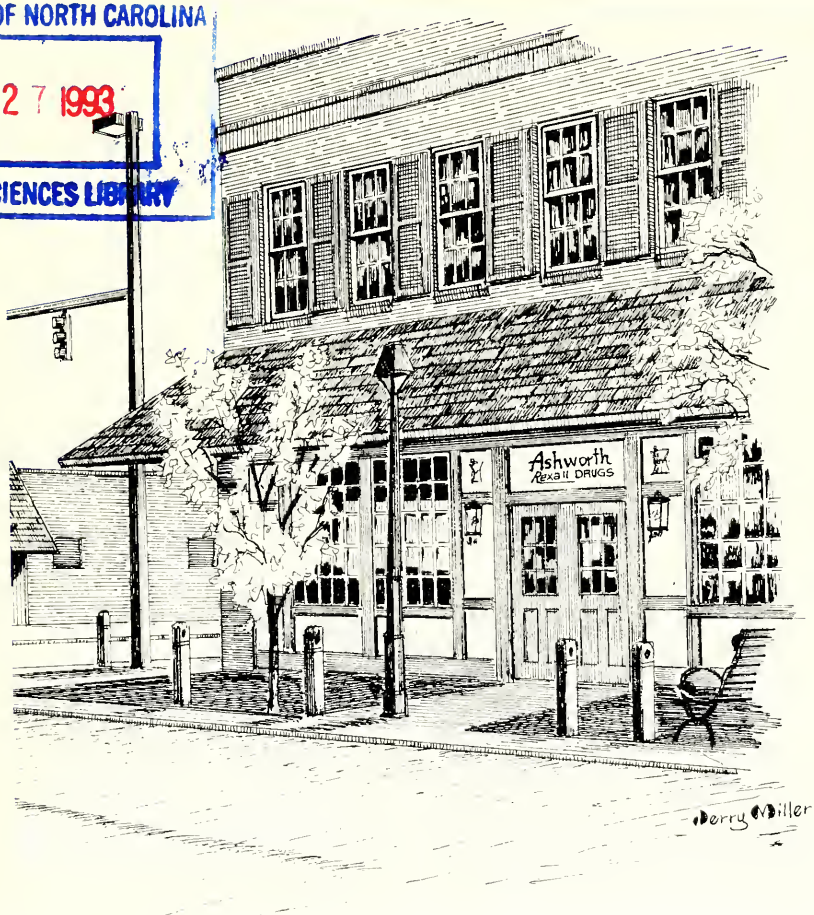

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RESTORING VITALITY IN COMMUNITY PHARMACY

by Bruce R. Siecker, Ph.D., R.Ph., Executive Vice President and Chief Operating Officer, National Wholesale Druggists' Association

If "confusion is the moment of chaos between what is no longer and what is not yet," then it is easy to say that community pharmacy is in a confused state. Gross margins, especially in the professional services area, continue to slide, while front end business increasingly migrates to super discount outlets and warehouse clubs.

Buying profits that result from anticipating manufacturers' price increases have fallen precipitously in the past year, while a variety of new practice requirements mandated for Medicaid recipients (and hence everyone else) can be expected to drive costs up while cutting professional productivity. And if that's not enough, the new administration in Washington, D.C. claims to have earmarked the entire industry-profession for "special attention" as part of so-called health-care reform.

Faced with all these challenges, it is easy for pharmacy managers to get discouraged and to settle into a parochial morass, seeing all of this happening only to community pharmacies...or only to oneself. Nothing could be farther from the truth.

Change is Endemic

Change is everywhere and it is affecting all parts of the economy, all areas of the country, and all aspects of the health-care delivery system. The legendary boxer, Joe Louis, allegedly said to an opponent, "You can run, but you cannot hide." When it comes to change and its effect on community pharmacy, however, it is more useful to expand upon this pugilistic epigram and say that, "You can hide, but you cannot escape."

It doesn't matter whether an enterprise is a $1 million per year independent community pharmacy or a multi-billion dollar giant; there is no escape. Everyone may not experience change at the same time, but it will happen to everyone. Seemingly impervious giants such as IBM, General Motors, McDonnell-Douglas, and American Express are being battered by changes they did not create, though some would say that their problems are a result of not reacting to change quickly or boldly enough. American Express got rich in the 1980's; however, value-conscious consumers are looking elsewhere and being wooed by a legion of credit-card competitors offering better deals, discounts, and rebates. As a result, American Express has been losing 500,000 credit-card customers **per fiscal quarter** for the past nine months.

IBM makes too many mainframe computers that too few businesses want anymore. General Motors has the highest costs of any major auto maker and few state-of-the-art products. The end of the Cold War and an abrupt downturn in orders by commercial airlines (down 58%), is hammering airplane giant McDonnell-Douglas so badly that it may get out of the business completely.

Problems Closer to Home

Drug manufacturers and drug wholesalers are fighting margin erosion too, and chain drug store sales were up only 7% in 1992 (over 1991). A key concern among chain drug stores is the continuous decline in gross margins in the prescription departments as third-party programs continue to grow. Price increases, long the salve that buffered drug manufacturers (and drug wholesalers to a somewhat lesser extent) from the foibles of drug research and development, a growing over-capacity in the distribution channel, and a recessionary economy, have slowed dramatically. According to the NACDS PRIME Index, the inflation in drug prices was only 5% (on an annualized basis) in the third quarter of 1992, for those drugs that experienced a price increase. The overall increase was even less, and there is little, if any, indication that the rate will change in the near term.

Most pharmacists can remember when gross margins for prescription services were 15-20 percentage points above what they are today. A cursory examination of the aggregate transactions shows margins in the mid to low twenties, i.e., somewhere between 21–24% gross margin. While pharmacy operators are rightfully alarmed by such numbers, and probably have reason to be concerned that the slide has not ended, few appear to be doing much of anything about it. Some chain drug stores report efforts to look at operations with the aim of cutting operating costs, but very, very few have designed pharmacies that can survive (and even produce profits) on margins in the 18-22% range.

Aggressive countermeasures designed to deal with falling margins as though they are irreversible are modest at best. Most pharmacy managers appear to favor tactics designed to restore margins of yesteryear or at least to ride out the current dip which is seen as temporary. Both views are doomed to fail, because pharmacy margin–prescription and frontend–are not going to rebound! If anything, they are headed still lower. Anyone who fails to grasp that a sea lane change in margins has occurred, and that it is never again going to be like it once was, is doomed to go down with their good ship pharmacy.

A Shift in Consumer Behavior

Everyone knows that third-party drug programs are aggressive price shoppers. (Some would be more graphic in describing their purchasing behavior.) The same is partially true for individual consumers. Some are price shoppers; others value convenience or service or quality or ambiance above price. While it is dangerous even to believe that all consumers think and act alike about all goods and services, there is substantial evidence to suggest that a major proportion of consumers today have shifted strongly toward low price as their primary focus.

According to Tactical Retail Solutions, a New York-based retail analyst, there has been a massive shift in shopping thinking and habits in the past several years and the shift is continuing. In short, today's consumer will forgo fancy, flashy, and fluff for a cheaper price. Discounters, outlet malls, warehouse clubs, and mail order firms are positioned very well to take advantage of the "saving above all else" mentality, and indeed proved the thesis by achieving record sales again during this year's holiday season.

The continuing recession and changing demographics have contributed to a major shift in focus in only two years. Even upscale shop-

	Retailer Perceptions	Consumer Actions
Emphasis on quality service	24.1%	3.4%
Promotions/markdowns	22.0	16.3
Better quality products	16.0	8.9
Everyday low prices	10.4	22.7
Larger selection	10.0	17.2
More exclusive products	8.8	5.1
Convenient location	8.6	16.5

pers in upscale communities are now "cross shopping" in stores they would never have been seen in only a few years ago. A recent study by Deloite & Touche demonstrates a gap between those who sell and those who buy. Retailers were asked what they believed shoppers looked for, while shoppers were asked what they are looking for today. The results are illuminating.

No one claims that low price is the only factor that accounts for buying behavior, that shoppers' motivations are the same for all goods and services (or in all communities in all parts of the country). But, it is perilous to believe that pharmacy shoppers are not price conscious and that pharmacy is immune to fundamental shifts in the broader retail or societal contexts.

Meanings for Community Pharmacy

There is nothing written anywhere that guarantees the U.S system of delivering prescription and non-prescription medicines and health and beauty aids. Community pharmacies exist because they serve a vital purpose and because enough consumers use their services to maintain the system. That's all! A continuing existence is predicated on serving the public's needs in the way it wants to be served **and** in producing a return sufficient to attract human and financial capital in the long run.

In spite of massive changes, falling margins, shifts in shopping behavior, and a dozen other challenges, community pharmacy continues to hold its own. Some are even prospering; a few are clear winners (today at least). Most, however, could be doing much better. The key to restoring vitality to community pharmacy resides in a paraphrasing of a popular Lee Iaccoca-ism, "In the pharmacy business, you lead, follow, or get out of the way."

The first steps in restoring financial vitality to community pharmacy is acceptance and recognition of several "givens," which include:

- Change affects everyone and anything. Surviving means seeing and reacting to change **before** it adversely affects a pharmacy.
- A pharmacy needs to be as customer driven as possible. That means staying in tune with what consumers want today and tomorrow. Shopping habits have changed and will change in the future and so must pharmacy.
- There are no guarantees. A pharmacy exists only so long as it fulfills needs and is profitable.
- What worked yesterday may not work today and probably won't work in the future. If a pharmacy is not dynamic—growing and changing continuously—it's static. A static organism isn't growing and adapting; it's dying.
- Answers cannot be found in the past. Efforts designed to restore "what was" yesterday are better used to address "what is" today.

The American marketplace plays no favorites. It takes continuous re-invention to stay ahead, and re-invention is hard work. The alternative is to wither slowly away as the world beats a path to more attractive alternatives. Fortunately, there are solutions if they are sought and community pharmacists have always come up with solutions. The time to start is now, because the clock is ticking.

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LANOXIN IS EFFECTIVE IN CONGESTIVE HEART FAILURE PATIENTS IN NORMAL SINUS RHYTHM, WITH OR WITHOUT AN ACE INHIBITOR.[1,2*†]

*The RADIANCE—Randomized Assessment of Digoxin on Inhibitors of the ANgiotensin Converting Enzyme—study was a multicenter, randomized, double-blind, placebo-controlled study of digoxin in CHF patients receiving diuretics *and* ACE inhibitors.

†The PROVED—Prospective Randomized study of Ventricular failure and the Efficacy of Digoxin—study was a multicenter, randomized, double-blind, placebo-controlled study of digoxin in CHF patients receiving diuretics.

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LANOXIN®

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Please see brief summary of prescribing information below.

LANOXIN® (DIGOXIN) TABLETS

Before prescribing, physicians should be thoroughly familiar with all aspects of this cardiac (or digitalis) glycoside as discussed in the full prescribing information

Brief Summary

CONTRAINDICATIONS:
(1) ventricular fibrillation, (2) an untoward effect requiring discontinuation of other digitalis preparations, and (3) a hypersensitivity or allergy to digoxin

WARNINGS: The use of digoxin for the treatment of obesity is dangerous since it may cause potentially fatal arrhythmias. Anorexia, nausea, vomiting and arrhythmias may be indications of digitalis toxicity. If so, digoxin should be temporarily withheld when possible. Patients with renal insufficiency require smaller than usual maintenance doses of digoxin. Heart failure accompanying acute glomerulonephritis requires extreme care in digitalization and careful monitoring. Relatively low loading and maintenance doses and concomitant use of antihypertensive drugs may be necessary. Digoxin should be discontinued as soon as possible in this setting. Patients with severe carditis are especially sensitive to digoxin-induced rhythm disturbances. Newborn infants display considerable variability in their tolerance to digoxin with premature and immature infants being particularly sensitive, reduce and individualize dosage accordingly. Note: Digoxin is an important cause of accidental poisoning in children

PRECAUTIONS: Digoxin toxicity develops more frequently and lasts longer in patients with renal impairment because of the decreased excretion of digoxin. Normal potassium and magnesium levels should be maintained in patients treated with digoxin. Calcium, particularly when administered rapidly by the intravenous route, may produce serious arrhythmias in digitalized patients. Hypercalcemia predisposes the patient to digitalis toxicity, whereas hypocalcemia can cause digoxin to become ineffective. Patients with acute myocardial infarction or severe pulmonary disease may be unusually sensitive to digoxin-induced rhythm disturbances. Atrial arrhythmias associated with hypermetabolic states are particularly resistant to digoxin treatment. Large doses of digoxin are not recommended as the only treatment of these arrhythmias, if large doses are required, be careful to avoid toxicity. In hypothyroidism, digoxin requirements are reduced. Reduction of digoxin dosage may be desirable before electrical cardioversion to avoid induction of ventricular arrhythmias. If digitalis toxicity is suspected, elective cardioversion should be delayed. Patients with incomplete AV blocks may progress to advanced or complete heart block when given digoxin, especially in patients with Stokes-Adams attacks. Digoxin may worsen sinus bradycardia or sinoatrial block in patients with sinus node disease. Digoxin may cause rapid ventricular rates and ventricular fibrillation in patients with Wolff-Parkinson-White Syndrome and atrial fibrillation. Because it may worsen the outflow obstruction in patients with idiopathic hypertrophic subaortic stenosis (IHSS), digoxin should only be used in severe cardiac failure in this setting. Patients with chronic constrictive pericarditis may fail to respond to digoxin. Slowing of the heart rate by digoxin in some patients may further decrease cardiac output. Patients with heart failure from amyloid heart disease or constrictive cardiomyopathies respond poorly to digoxin. (See DRUG INTERACTIONS section.)

Laboratory Tests Serum electrolytes and renal function should be assessed periodically

Drug Interactions Potassium-depleting *corticosteroids* and *diuretics* may be major contributing factors to digitalis toxicity. *Calcium*, particularly if administered rapidly by the intravenous route, may produce serious arrhythmias in digitalized patients. *Quinidine, verapamil, amiodarone,* and *propafenone* cause a rise in serum digoxin concentration with the implication that digitalis intoxication may result. Certain *antibiotics* increase digoxin absorption in patients who inactivate digoxin by bacterial metabolism in the lower intestine, so that digitalis intoxication may result. *Propantheline* and *diphenoxylate*, by decreasing gut motility, may increase digoxin absorption. *Antacids, kaolin-pectin, sulfasalazine, neomycin, cholestyramine,* certain *anticancer drugs* and *metoclopramide* may reduce intestinal digoxin absorption, resulting in unexpectedly low serum concentrations. There have been inconsistent reports regarding the effects of other drugs on the serum digoxin concentration. *Thyroid* administration to a digitalized, hypothyroid patient may increase the dose requirement of digoxin. Concomitant use of digoxin and *sympathomimetics* increases the risk of cardiac arrhythmias because both enhance ectopic pacemaker activity. *Succinylcholine* may cause a sudden extrusion of potassium from muscle cells, and may thereby cause arrhythmias in digitalized patients. Although ß adrenergic blockers or calcium channel blockers and digoxin may be useful in combination to control atrial fibrillation, their additive effects on AV node conduction can result in complete heart block

Carcinogenesis No long-term animal studies have been performed to evaluate carcinogenic potential

Pregnancy: Pregnancy Category C. Animal reproduction studies have not been conducted with digoxin. Digoxin should only be given to a pregnant woman if clearly needed

Nursing Mothers Studies have shown that the digoxin concentration in the mother's milk is far below the usual infant maintenance dose and should have no pharmacologic effect upon the infant. Nevertheless, caution should be exercised when digoxin is administered to a nursing woman

ADVERSE REACTIONS The overall incidence of adverse reactions has been reported as 5 to 20%, with 15 to 20% (1 to 4% of all patients) of them being considered serious. Evidence suggests that the incidence of toxicity has decreased since the introduction of the serum digoxin assay and improved standardization of digoxin tablets. Cardiac toxicity accounts for about one-half, gastrointestinal disturbances for about one-fourth, and CNS and other toxicity for about one-fourth of these adverse reactions

Adults: ***Cardiac***—unifocal or multiform VPCs; ventricular tachycardia; AV dissociation; accelerated junctional (nodal) rhythm and atrial tachycardia with block; excessive slowing of the pulse; AV block (Wenckebach) of increasing degree may proceed to complete heart block

Gastrointestinal: anorexia, nausea, vomiting, occasionally diarrhea, and very rarely hemorrhagic necrosis of the intestines and abdominal pain

CNS: visual disturbances, headache, weakness, dizziness, apathy and psychosis.

Other gynecomastia

Infants and Children: Anorexia, nausea, vomiting, diarrhea and CNS disturbances may be present but are rare as initial symptoms in infants. Cardiac arrhythmias are more reliable signs of toxicity. Digoxin in children may produce any arrhythmia. Most common are conduction disturbances or SVTs, such as atrial tachycardia with or without block, and junctional (nodal) tachycardia. Ventricular arrhythmias are less common. Sinus bradycardia may also be a sign of impending digoxin toxicity, especially in infants, even in the absence of first degree heart block

September 1991 542253

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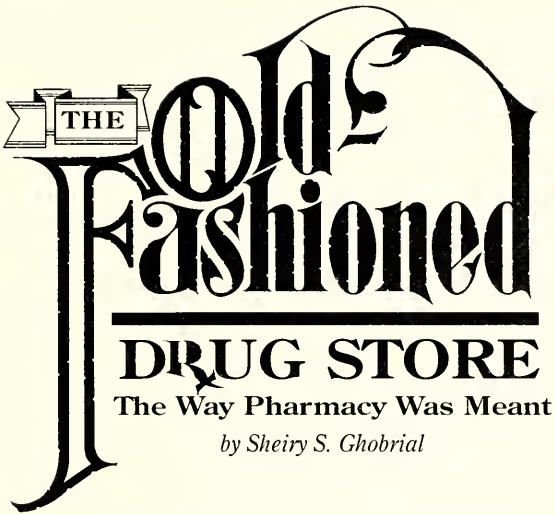

The Way Pharmacy Was Meant

by Sheiry S. Ghobrial

Following is the winning essay written by the 1993 recipient of the Ralph P. Rogers Memorial Award

Public trust doesn't come easy. Trust must be gotten the old-fashioned way —by earning it. Pharmacists have been the most trusted professionals for years. That trust was earned over decades or perhaps over several generations. With such honor bestowed on the profession, pharmacists have the duty to uphold that trust by being careful of their actions and aware of their responsibilities when dealing with their patients. Trust is the reward for careful planning, administrative expertise practiced by pharmacists, and such respect is what has brought the profession where it is today. In the old-fashioned pharmacy, the pharmacist not only counseled patients about their medication, but also took the time to find out how the patients were doing overall. The pharmacist would even suggest some lifestyle modifications that would further the treatment of the patient and help reduce medical costs. All these things were once commonly practiced by pharmacists. Now it takes such laws as OBRA'90 to regulate what was previously honored and respected by the profession.

In the old-fashioned drug store, the patient was greeted by name and made to feel welcome. It was a place where patients could take their questions about different medications and health issues and know they would get answers. Patients were not ignored, rushed, or made to feel unimportant. The attitude of the pharmacist was one of genuine concern, rather than one of "I don't have time for your silly questions because I have to fill as many prescriptions as I can." Of course, this may not always be the pharmacist's fault. Employers influence the way a pharmacy operates, but pharmacists should not agree to cooperate with actions that compromise the profession, or more importantly, the provision of pharmaceutical care.

This reasoning may sound a bit idealistic, but, in reality, business would increase due to the improved service the patients would be getting. This is evidenced by the survival of the independent drug store. Patients do not mind paying slightly higher prices as long as they receive the service and attention they need and deserve.

Patients are now getting the counseling they need, but it is being regulated by the government. It is no longer an option for the pharmacist; it is required by law. It is astonishing, and even sad, to see that the world of pharmacy has reached a point where govern-

ment intervention is necessary to regulate major aspects of the profession that are already done on a daily basis. There are many pharmacists who oppose the law for that particular reason. But regulation does not necessarily have to be negative. The guidelines for counseling a patient let the pharmacist know exactly what is expected. There is no question of what must be done. This does not have to be the regulation of pharmacy, but rather rules for the further care of patients—and that is what's most important. Rules and regulations do not **restrict** the pharmacy profession; instead they give it structure and credibility. From now on, pharmacists will be acknowledged for providing a service rather than a product. Recognition for their knowledge and experience means pharmacists no longer have to worry about the threat of being replaced by a technician or a computer. This is what was done in the old-fashioned drug store, and is what will continue.

Pharmacists are the means of communication between the patient and the physician. They are an integral part of the health care process and should be recognized as such. To achieve that recognition, pharmacists must maintain the sense of trust that they deservedly earned by spending time with their patients. Preventive medicine is the wave of the future, butpharmacists have been doing it all along and now must continue to do it through counseling. Their concern for patients has earned them the title of representatives of the medical staff on behalf of their patients. That type of trust does not come easily. Pharmacists should do everything in their power to keep it and ensure that it is never lost.

Sheiry Ghobrial, *center*, 1993 recipient of the Ralph P. Rogers Memorial Scholarship Award, is presented with a check by members of the Rogers' family. Pictured left to right are Betty Rogers, Clinton Rogers, Sheiry Ghobrial, Betsy Rogers Millar, and Jack Millar.

EMPLOYEE FRAUD–ARE YOU A VICTIM?

by Layne H. Laughlin, CPA
Norris, Laughlin & Blankenship, CPAs, PA

The bookkeeper of a small construction-supply company embezzles $400,000 over several years by writing checks to herself and charging the expense to inventory.

The manager of a small motel pockets several thousand dollars of cash received from motel guests. He covers the loss by writing off credit card receivables that in fact have already been collected.

The program director of a nonprofit agency collects all checks received for rental of the agency's gymnasium facility. He opens a bank account in the agency's name in order to cash the checks and convert the funds to personal use. The fees received are never recorded on the agency's books.

We have all heard or read stories similar to these and thought to ourselves, perhaps somewhat smugly, that such obvious and simple schemes would not go undetected in our businesses. The fact is that most employee fraud schemes are neither ingeniously devised nor cleverly disguised. They are often undetected because we close our eyes to obvious behavioral and financial clues. Quite simply, we do not want to believe it could be happening among us, perpetrated perhaps by colleagues with whom we eat lunch or whose children play with ours. These are not the same criminals we see on the six o'clock news, or read about in the morning paper.

Do you really think it can't happen in your place of business? Think again. Consider the following statistics compiled by the US Department of Commerce.

- It is estimated that losses from white-collar crime amount to almost $1,000 **per person**, per year, in this country.
- Internal fraud is a factor in one-third of all business failures.
- Only 30 percent of retailers' "shrinkage" losses are attributable to shoplifting; 70 percent results from employee theft.
- Losses from employee theft and fraud amount to one half to two percent of sales in most businesses.

Why and when does employee fraud occur?

Fraud is most likely to be committed when a potential offender is faced with three factors simultaneously.

- **Financial need**–Usually this is a need that the offender finds difficult to admit to others. It may result from excessive debt, financial losses, a gambling, alcohol or drug problem, or simply living a lifestyle beyond one's means.
- **Perceived opportunity**—Most white-collar criminals will not commit a fraud if they believe they are likely to be caught.
- **Ability to rationalize**—Offenders must be able to defend their behavior as other than outright theft or fraud. Frequently, rationalizations include "I'm just borrowing it," "everybody else does it" and "they owe it to me."

Can employee fraud be detected and prevented?

The good news is that you don't have to be a hapless victim of employee theft and fraud. Usually the environment can be structured to minimize the likelihood of theft occurring. And, while it is not likely that all such crimes can be prevented, the alert business person can often detect employee fraud before major damage is done.

Fraud detection

Most fraud schemes are discovered by accident or because the perpetrators, tiring of the effort required to disguise their actions, admit the crime. What can you as a business owner do to increase the odds of discovering fraud in your own organization? First, you must be alert for certain behavioral clues. **An employee who is committing fraud will often exhibit personality changes resulting from the continuous pressure of committing the fraud.** Pay attention to unusual mood swings, irritability, lethargy or depression. Watch for indications that employees are living beyond what you know to be their means. Most fraud perpetrators do not save the money they steal—they spend it, and often conspicuously. Exotic vacations, expensive jewelry and clothing, and luxury automobiles are frequent purchases. You should also be alert for employees who have pressing or unusual financial problems, have obvious difficulty managing their money or who have outside business interests.

Secondly, internal systems and financial documents may provide you with additional clues. Is there an unusual frequency or pattern of missing files and documents? Are complaints from customers on the rise (particularly concerning billing matters)? Look closely at bank reconciliations for stale items or unusual patterns of deposits in transit. Look for unusual endorsements on canceled checks. Pay attention to unusual journal entries, particularly unexplained adjustments to inventory or accounts receivable.

Finally, keep your financial statements current and review them closely. Become familiar with the details of your organization's operating results. **Owners and managers who know their business well and pay close attention to their financial reports** will quickly spot unusual or unexplained variances in sales levels, gross profit percentages and expense items. Such items should be investigated thoroughly. Be careful not to rationalize them away too quickly. Most of the fraud examples at the beginning of this article could have been detected fairly quickly had someone paid attention to the financial statements.

Fraud prevention

The key to designing fraud prevention measures is based on controlling the three causal factors discussed earlier—financial pressure, opportunity and rationalization.

Employers probably have little control over the financial pressures facing their employees. However, as was discussed earlier, it is important that the employer be **aware** of such situations. Financial pressures provide the motive for the employee to steal.

In considering the other two factors—opportunity and rationalization—most people conclude that the most effective means of preventing fraud is to remove the opportunity by strengthening internal controls. Internal controls depend to a great extent on delegating various accounting functions to different employees in order to limit their individual control over the business assets and records. This is a problem for small businesses, however, where there are typically too few employees to effectively separate these functions.

When confronting the issue of fraud in a large or small business an effective means of fraud prevention is to address the issue of **perceived** opportunity and rationalization. **Create the perception that opportunities to steal are few** and take away the employees' ability to rationalize their behavior as something other than theft. Create an environment where the employee believes that employee theft will be punished.

In order to minimize perceived opportunity, heed the following suggestions:

- Pay attention to detail and let your employees know that you pay attention to detail. Show interest, ask questions, investigate unusual items.
- Enforce existing internal controls. Don't allow deviations from procedures intended to enhance controls. This creates the perception that rules and procedures are meaningless and encourages their circumvention.
- Avoid operating in a crisis mode. In crisis situations, normal procedures and controls are often overlooked or circumvented thus making fraud easier to accomplish.
- Implement a fraud reporting program–

continued on page 18

Clinical Services in the Community Pharmacy

Introduction

The community pharmacist is the professional who is readily accessible to each patient entering the pharmacy. For this reason, we are often the people who initiate a needed health referral, detect a problem, or educate the patient in the hope of improving a health outcome. There are many clinical functions currently taking place in pharmacies although we may not recognize them. Teaching patients how to use a glucometer or blood pressure cuff, Ensuring that medication directions are understood, and consulting the physician when needed are all clinical functions that pharmacists perform many times each day. In this paper, I will identify some clinical functions currently in place, give ideas for expansion and enhancement of these functions, and offer some dreams for the future. Patients are staying in hospitals for shorter periods of time and returning to their home and their personal pharmacist and physician for follow-up care. The array of services available in the community pharmacy is steadily increasing, and the pharmacist is in the best position to select appropriate services and communicate vital information to the patient. Our accessibility to the patient gives us a wonderful opportunity to help patients and their caregivers and expand our role in society.

Identification of Clinical Services

Interventions occur when the patient has sought professional services and a potential problem has been identified. Problems may include allergies, interactions, appropriate doses or directions for use. These kinds of problems usually require the pharmacist to consult with the prescriber to achieve resolution. This usually does not take place in a timely fashion due to the difficulty in speaking directly to the physician. Most of the time a receptionist will take the message, relay it to the physician, who then returns your call. Delays of this nature are not uncommon and require the pharmacist to assess the situation and offer to deliver the medicine or call the patient (or their caregiver) when pick-up is possible. It is important for patients to understand that we are intervening on their behalf. It is to their advantage that we clarify any areas of uncertainty. The patient should be offered a comfortable place to wait or delivery service if there is a long wait for clarification.

Managing side effects is also important for patients. If the patient is unable to take a medicine due to intolerable nausea, the pharmacist must be made aware of the symptom early so that the side effect can be managed and the patient can be compliant. Most drug-drug interactions are not so severe that the medicine must be discontinued. Patients, if they are aware of toxic symptoms, can monitor themselves and report any dangerous reactions to the pharmacist or physician. There are, of course, dangerous drug-drug interactions which cannot be left to the patient's management, but these are the exceptions. A far more common situation is one where education and counseling prepare the patient to be a wise medication user and report significant interactions to the pharmacist or physician, thereby permitting current therapy to be completed with long-term benefits to the patient.

Counseling the patient is probably the most important duty of the pharmacist. Counseling

is not talking *at* the patient but a dialogue *with* the patient, in which two-way communication is encouraged. It is extremely important to note that where pharmacists are actively interacting with patients, better compliance is achieved.[1] Also, independent pharmacists who make time for significant patient counseling are more able to cope with competition from large-volume chain stores, who cannot offer patients personal attention.[2] Counseling includes anything that can improve compliance and communication between pharmacist, patient, and physician.

Education

Educating patients about their drug therapy is necessarily tied to counseling. It includes teaching patients how to use appliances such as glucometers and blood pressure cuffs and may extend to such high-tech items as IV pumps for home infusions. Education also includes making patients aware of non-drug therapies that may enhance their lives and make their medicine more effective. Conversations with patients can reveal the need for more services such as medication calendars, home or personal-care aides, or social services contact.

When a newly diagnosed diabetic patient comes to a pharmacy for the first time, he probably has many questions. How do I measure my insulin? How much insulin should I keep on hand? How long is my insulin good out of the refrigerator? Would you get a Pepsi for me while I wait? What about my feet? I forgot what the doctor said. All of these questions present an opportunity to make a significant difference in the person's life and to enhance the image of pharmacy.

Hypertensive patients also need help in adjusting to a new lifestyle. They may need information about weight control or referral to community based self-help programs. They surely need to understand the importance of regular exercise and medication, and they also need to be aware of the side effects of antihypertensive medications.

Some pharmacies are actively encouraging their patients to bring in all of their medications—a brown bag day—to check for outdated, inappropriate, no longer needed, or duplicate medications.[3]

Education can also be a part of the pharmacist's service to the community. Drug information is very important for everyone and includes common emergencies, poison prevention, information regarding over-the-counter medications, prenatal care, immunizations for children, contraceptives, sexually transmitted diseases, and common medication interactions.

Compounding

Compounding, the production of a medication in response to a specific prescription, may seem out of place in an inventory of clinical functions. It is a service, that regrettably, not all pharmacies offer. There is a small but significant need for compounding services in communities. Crucial elements of this service are accuracy, availability, quality, and reproducibility.

By assuming the responsibility for providing compounding services the pharmacist insures that the less commonly needed medicines will be available to the patients who need them. These medications include pain management cocktails, progesterone suppositories, comfort mouthwashes, parenteral and enteral nutrition mixtures, IV pain-control medicines, IV antibiotics, cough/cold mixtures, slurries prepared from tablets such as Carafate and Cipro, and topical creams and ointments.

The ability to appropriately compound and deliver a medication to the patient enhances the image of the pharmacist and serves the needs of the patient well. It is a unique service that should not be provided by anyone else.

Other Clinical Services

Clinical services provided by pharmacists are as varied as the patients' needs. In each interaction with a patient, the pharmacist strives to tailor the services to meet unique and perhaps one-time needs. Patients often rely on pharmacists to help them determine when to see a physician and when to self-medicate. While pharmacists do not refer patients to specific physicians, they do encourage medical intervention when it is appropriate, and they are often consulted about availability and appropriate use of specialists. This

triage function coupled with monitoring of chronic disease states and disease screening is a vital community and clinical service that pharmacists provide.[4]

Information regarding medicine and other health-related problems is routinely delivered by telephone. Sometimes this information is requested by patients never seen by the pharmacist. While the ever-ringing telephone can be seen as an imposition, the opportunity to provide a service to the community cannot be ignored.

Improvement To Current Services

Improving current clinical services involves two processes. First, we must identify clinical services taking place now, and second, we must expand those services and create new services as the need arises. Improvements may be mandated, as in the case of implementation of OBRA '90, or they may be natural outgrowths of services that need enlarging or changing to meet the needs of patients. As professionals we should be constantly searching for new and better ways to serve our patients and make meaningful contacts with other professionals. There will always be opportunities for improvement, invention, and increased quality. There will always be a place for the pharmacist who is constantly looking for new services and new ways to improve patient outcomes.

A complete medication and physical history for our patients is of utmost importance. Computer software is continually being updated to assist pharmacists in this area. We need an easy-to-read patient data screen as part of the medication profile on each patient. This screen would be consulted and changed as needed. The information should list physical characteristics, prescribed and over-the-counter medications, allergies and unusual reactions to medicines, disease states, social history, comments by the pharmacist, hospitalizations, and interventions by the pharmacist. A better patient history would enable pharmacists to make intelligent and informed decisions regarding pharmaceutical care.

All routine functions should be delegated to technicians to free pharmacists for patient counseling. Part of the improvement in services will come when technicians have a formal certification and training program and are

Pharmacist Suzanne Alford counsels a customer about her medication. Medical Park Pharmacy in Morehead City places "customer satisfaction" at the top of their list of priorities.

given legal functions in pharmacy. A survey of South Carolina technicians determined that credentialing and formal recognition was necessary for increased technician responsibility.[5] There are many functions that can be capably performed by technicians—prefilling syringes, computer order entry, screening phone calls, wholesale ordering, and many more. All these functions consume the pharmacist's time and do not enhance patient outcomes.

Of course, if technicians are handling the routine functions of the pharmacy, the pharmacist must be able to handle the emerging clinical functions. This often means improving clinical skills in order to play a meaningful role in patient care. The challenge is continuous because the production of new information and new medications occurs rapidly and does not leave room for those who want all the information "canned" and passed out in easily digested form. Patients are receiving ever more complex treatments at home, and their need for advice is growing at an alarming rate. The pharmacy and the pharmacist who sees satisfying this need as a positive challenge will be successful in the changing face of health care today and will be a vital community clinician and health resource person—not just a dispenser of medicine. Those who create their niche today will have their profession tomorrow.[6]

Follow-up counseling is extremely important in order to improve patient compliance and therapeutic outcome. The core of this function is a professional and continuing relationship between patient and pharmacist. Patients must be comfortable about calling the pharmacist for help with their therapy—handling unpleasant side effects, dose-time adjustments, and effectiveness of therapy. If a patient begins a course of therapy for an infected wound, for example, an appropriate recommendation from the pharmacist would be for the patient to call back if the wound is not less red and painful in 48 hours and call sooner if the wound is worse. By opening the channel of communication, we have given the patient a contact person—someone to consult if things are not going well.

Follow-up therapy also means ensuring that the patient has every available assistance for achieving compliance. For instance, if the pharmacy serves a large geriatric population, special medication holders or calendars may be helpful as simple reminders. Not every patient will need these kinds of intensive services, but part of the task of the pharmacist is figuring out which ones do need help and to what degree.

Future Clinical Opportunities

Expansion of the role of the community pharmacist will require schools to restructure their practice models to prepare pharmacists and pharmacy students for clinical community practice. Schools must be responsive to the needs of the profession just as practitioners are responsive to the needs of their patients. Pharmacists in the field must be permitted to acquire clinical skills at off-campus sites. It would not be practical to require pharmacists to return to campus for an extended period of time. The benefits of off-campus PharmD programs should be obvious—better patient care and enlargement of the role of pharmacy in health care. Schools and educators must assume their role in the future provision of services—preparing professionals for changing roles and expectations.[7]

Education of patients is an area for expansion in the future. We pharmacists need to focus on our position of trust and expand our services in drug education and management of chronic conditions, particularly with the elderly. In the future, collaboration between physicians and pharmacists may establish protocols to treat certain chronic diseases supervised by the pharmacist. Supervision would include monitoring lab values, dose adjustments, and communication with patient and physician regarding therapy.

Pharmacists need to be aware that visibility to the patient is necessary for any future professional role. If patients fail to see the value of pharmaceutical services, they will seek medicine based solely on cost and not on services. When interventions are made, patients need to know what we are doing and why. When changes to therapy are made, patients need to be informed about what is happening and

why. Patients are usually concerned with their medication therapy and have every right to ask questions and receive truthful answers. When additional services are needed, patients should see the pharmacist as a logical person to help direct appropriate care. Neither our profession nor our patients are served well when we hide behind counters, closed doors, and technicians.

Special populations need special services. The pharmacist would be wise to develop services specifically to serve groups of patients—the elderly, handicapped, children, adolescents—thereby creating a specialty for professional expansion. Provision of services without the human touch will not succeed. High tech alone intimidates patients, but high tech with tender care creates situations in which healing can take place.[8] Creation of tender-care specialties is a good way to protect against professional burn out.

Conclusion

There are many forces influencing pharmacy today. In order for pharmacy to remain a viable profession and make meaningful contributions to total health care, pharmacists must remain visible and accessible to patients. They must be more proactive in determining the direction pharmacy will take into the future. Clinical opportunities occur each time a patient comes into a pharmacy for services, but how the services are perceived by the patient is largely determined by the attitude of the pharmacist. Clinical services encompass everything from medication instructions and delivery of the correct medicine, to educating the patient about life style changes.

Clinical services offer the independent community pharmacist a chance to promote services that may be unique to that one location and secure a market share for the business. Pharmacists must become their own promoters and make the public aware of their willingness to serve their patients' needs through provision of quality clinical services. The most effective promotion comes from word of mouth—the by-product of giving consistently high quality service to patients.

Many clinical services are currently provided by pharmacies. These include professional interventions, education, and compounding services, but there is a need for improvement and expansion of services to offer more specialized patient care. In the future, pharmacists must be able to manage the care of patients, interpret lab results, and make appropriate patient referrals. When this kind of skilled intervention takes place, patient outcomes are improved.[9]

Pharmaceutical care and clinical services are appropriately linked in the ambulatory care community pharmacy where patients are assessed, counseled, and monitored to insure compliance and appropriateness of therapy. These expanding roles must be nurtured and fostered both in the community and in schools of pharmacy. Intensive education in clinical pharmacy services is necessary, not only for current students, but for those engaged in practice in the field. The survival of pharmacy as a profession depends on our assimilation of added clinical responsibilities and the vision of improved health care nationwide.

References made available upon request.

Suzanne K. Alford is a pharmacist in a community pharmacy where clinical services are emphasized.

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Employee Fraud
continued from page 12

Most employees are aware of a co-worker or boss stealing and often are resentful that they are "getting away with it." Provide your employees with a means to anonymously report their suspicions and encourage its use.

The ability of your employees to rationalize can be minimized by the following:

• A written ethics policy. Communicate in writing to your employees exactly what is considered unacceptable behavior in your company. Make sure all new employees receive, read and sign a copy of the policy. This makes it very difficult for employees to justify their behavior on the grounds of ignorance.

• Make sure employees know that dishonest acts will be punished. When these acts do occur, administer punishment consistently. (Don't wink your eye at the manager who pads the expense report but prosecute the clerk who pockets $20.) In almost all cases, violators should be fired. If they are not, the message you give to the rest of your employees is that the behavior is acceptable.

In summary, you **can** protect your business against employee theft and fraud. It simply requires that you be keenly attuned to your people, your numbers and your systems. And in this case, an ounce of prevention is surely worth a pound of cure.

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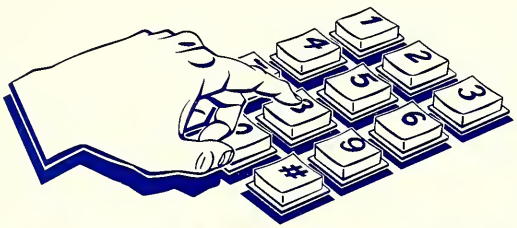
Health Care Resource Directory



The "Health Care Resource Directory" is a collaborative effort of the 1992 and 1993 NCPhA Public Health Committees. Many thanks to Charles Reed for updating this valuable resource for publication.

This Directory is intended to be used during consultation with patients with extraordinary needs. Every effort has been made to provide accurate information. We encourage you to notify the NCPhA office at 800-852-7343 if any inaccurate information is detected. Please retain for future reference.

AIDS/AZT

AIDS Clinical Trials Informational Service 800-874-2572
Burroughs Wellcome — HIV Patient Assistance Program 800-722-9294
General information/referrals to local informational and support groups
CDC National AIDS Clearinghouse 800-458-5231
National AIDS Hotline ..... English: 800-342-2437
Spanish: 800-344-SIDA
National Indian AIDS Hotline 800-283-2437
AZT Program 919-733-6298
Contact: Richard Moore
Eligibility requirements for State AZT Program
Project INFORM Hotline 800-822-7422

Alzheimer's Disease

Alzheimer's Disease & Related Disorders Assoc. 800-272-3900
Alzheimer's Disease Education & Referral Ctr. 800-438-4380

American Red Cross

(National—Washington, DC) 202-639-3159
or Local Office

Arthritis

Arthritis Foundation Information Hotline 800-283-7800

Baby Love

Provides prenatal health coverage for eligible women.
Contact local health department or Department of Social Services.

Basic Child Services

Varies by county. Contact local health department.

Cancer

American Cancer Society Response Line 800-227-2345
Cancer Information Service (CIS) 800-4-CANCER
National Marrow Donor Program 800-654-1247
Y-Me Breast Cancer Support Program 800-221-2141

Center for Disease Control (CDC)—Atlanta

Agency for Toxic Substances and Disease Registry (ATSDR) 404-639-3291
Disease Information Hotline 404-332-4555
National Center for Chronic Disease Prevention and Health Promotion 404-488-5401
National Center for Environmental Health and Injury Control 404-488-4111
National Center for Health Statistics 301-436-7016
National Center for Infectious Diseases 404-639-3401
National Center for Prevention Services 404-639-1800
(Immunization) 404-639-1880
National Institute for Occupational Safety and Health (NIOSH) 404-639-3771
Operator (CDC Main) 404-639-3311
Public Inquiries 404-639-3534

Child Abuse Reporting/Information

Contact local Department of Social Services.

Children's Special Health Services

Provides diagnostic and treatment services to children under 21 years of age with certain chronic diseases. Clinics include neurology, asthma, orthopedics, etc. Contact local health department.

Dental Health Services

Availability of services varies with counties. Contact local health department.

Developmental Evaluation Center

Provides clinical evaluation, treatment and services for eligible children, coordination for children with developmental disabilities. Contact local health department.

Diabetes/Digestive Disease

American Diabetes Association 800-232-3472
Juvenile Diabetes Foundation International Hotline 800-223-1138
National Foundation for Ileitis and Colitis 800-932-2423

Epilepsy Control Project

May be able to provide services/medication for eligible indigent patients
Epilepsy Information Services—Bowman Gray 800-642-0500
Epilepsy Association of North Carolina 919-834-2865

Family Planning

May include physical exam, testing, birth control method. Some fees may apply. Vasectomy services/referrals may be available. Contact local health department.

Handicapping Conditions

National Easter Seal Society 800-221-6827

National Information Center for Children & Youth with Disabilities 800-999-5599
National Information Clearinghouse for Infants with Disabilities & Life Threatening Conditions 800-922-9234

Home Health Services Program
Availability may vary by Community Alternatives Program (county).
Contact local health department or Department of Social Services

Hospital/Hospice Care
Children's Hospice International 800-242-4453
Hill-Burton Hospital Free Care 800-638-0742
Hospice Education Institute Hospice Link 800-331-1620
Shriners Hospital Referral Line 800-237-5055

Immunizations
Immunizations including flu shots, pneumonia, Gamma Globulin, foreign travel, etc.
Availability/fee may vary by county. Contact local health department
Immunizations for college admissions Contact local health department.
Refer to local health department since changes occur frequently.
State mandated vaccines are available free at local health departments.
Call for appointment/information.
Inactivated polio vaccine, hepatitis outbreaks, rabies vaccine—pre- and post-exposure.
Contact local health department.

Learning Disorders
The Orton Dyslexia Society 800-222-3123

Library Services
National Audiovisual Center 800-272-4787
National Library of Medicine 800-272-4787
National Library Service for the Blind and Physically Handicapped 800-424-8567
Recording for the Blind 800-221-4792

Liver Diseases
American Liver Foundation 800-223-0179

Lung Diseases/Asthma/Allergies
Asthma and Allergy Foundation of America 800-727-8462
Allergy & Asthma Information Line 800-822-2762
Lung Line National Asthma Center 800-222-5864

Lupus
American Lupus Society 800-331-1802
Lupus Foundation of America 800-558-0121
Terri Gotthelf Lupus Research Institute 800-825-8787

Migrant/Refugee Programs—vary by county.
Contact local health department.

Minority Health
Office of Minority Health Resource Center 800-444-6472

Multiple Sclerosis
National Multiple Sclerosis Society 800-227-3166

Myasthenia Gravis
Myasthenia Gravis Foundation 800-541-5454

Narcolepsy
American Narcolepsy Association 415-788-4793

National Child Safety Council
National Highway Traffic Safety Admin.
Auto Safety Hotline 800-424-9393
National Institute of Occupational Safety & Health:
Technical Information Branch: Robert A. Taff Laboratory 800-356-4674
National Safety Council 800-621-7619
Office of Navigation Safety and Waterway Services Auxiliary
US Coast Guard: Boating Safety Hotline 800-368-5647

Organ Donation
National Kidney Foundation ..... NC: 800-356-5362
NY: 800-228-4483
Organ Donor Hotline 800-243-6667

Paralysis/Spinal Cord Injuries
National Rehabilitation Information Clearinghouse 800-346-2742
National Stroke Association 800-367-1990

Parkinson's Disease
American Parkinson's Disease Association 800-223-2732
National Parkinson's Foundation 800-327-4545
Parkinson's Educational Program 800-344-7872

Poison Control Centers
Carolinas Poison Control Center ..... (Statewide) 800-848-6946
(Charlotte) 704-355-4000
Catawba Region Poison Control Center ..... (Hickory) 704-322-6649
Duke Poison Control Center ..... (Statewide) 800-672-1697
New Hanover Regional Medical Center ..... (Wilmington) 919-343-7046
Triad Poison Control Center ..... (Greensboro area) 800-953-4001
(Toll-free access limited to Guilford, Randolph, Forsyth, Alamance and Rockingham Counties only)
Western N.C. Poison Control Center ..... (Statewide) 800-542-4225

Prenatal Care
First Step Campaign 800-FORBABY
General information and referrals. Contact local health department.

Rabies Information

Public Health Veterinarian 919-733-3410

Rabies Vaccine

Pre- and post-exposure. Contact local health department.

Rare Disorders

American Leprosy Missions (Hansen's Disease) 800-543-3131
Amyotrophic Lateral Schlerosis Association 800-782-4747
Ankylosing Spondylitis Association 800-777-8189
Batten Disease Support 800-448-4570
Cooley's Anemia Foundation 800-221-3571
Cystic Fibrosis Foundation 800-344-4823
Epilepsy Foundation of America 800-332-1000
Huntington's Disease Society of America 800-345-4372
Meniere's Network 800-545-4327
National Association for Sickle Cell Disease 800-421-8453
National Down Syndrome Congress 800-232-6372
National Down Syndrome Society Hotline 800-221-4602
National Information Center for Orphan Drugs & Rare Diseases 800-456-3505
National Lymphedema Network 800-541-3259
National Neurofibromatosis Foundation 800-323-7938
National Organization for Rare Disorders 800-999-6673
National Reye's Syndrome Foundation 800-233-7393
National Tuberous Sclerosis Association 800-225-6872
Sarcoidosis Family Aid and Research Foundation 800-223-6429
Spina Bifida Information and Referral 800-621-3141
United Cerebral Palsy Association 800-872-5827
United Scleroderma Foundation 800-722-4673

Renal Disease Program

To assist patients suffering from chronic kidney failure. Contact local health department.

Services for the Blind

Contact local Department of Social Services and ask for
Social Worker for the Blind 919-733-4234

Sexually Transmitted Diseases

CDC National STD Hotline 800-227-8922
Contact local health department.
Some medications/services are provided free.

Sickle Cell Program

Variety of services available. Contact local health department.

Sudden Infant Death Syndrome

American SIDS Institute 800-232-7437
SIDS Alliance 800-221-7437

Tuberculosis

Contact local health department.

Most services and medications to treat mycobacterium TB and contacts are provided free. [Isoniazid - INH, Rifampin, Rifamate, Ethambutol, Pyrazinamide (PZA)].

Urological Disorders

American Foundation for Urologic Disorders 800-242-2383
National Kidney Foundation 800-622-9010

Vision

American Council of the Blind 800-424-8666
Lighthouse National Center for Vision and Aging 800-334-5497
National Eye Care Project Helpline 800-222-3937
National Retinitis Pigmentosa Foundation 800-683-5555
Vocational Rehabilitation—for all information 919-733-3364

Women and Children's Services

WIC/Women, Infant & Children's Nutrition Program through local health department provides supplemental food and nutrition counseling. Contact local health department for referral/appointment.

Other Information

Information/Referral Services (Department of Human Resources)
CARE LINE 800-662-7030
Medic Alert Foundation 800-432-5378
Substance Abuse/Mental Health Programs.
Contact local Mental Health Department.

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REGISTRATION – includes 15 hours of Continuing Education, full breakfasts for four mornings, welcome reception and other planned functions. Limited space available.

Registration for the program is $300 per pharmacist. To reserve your spot send $100 deposit (refundable through October 31, 1993) to the Colorado Pharmacists Association, 7853 E. Arapahoe Ct., Suite 1500, Denver, CO 80112. Any questions, or for a program schedule, call Tom Gray, Executive Director of CPhA at 303-843-0835.

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If you have not received registration material for this program please call the NCPhA office at 800-852-7343.

APHA BACKS AMA ANTISMOKING POLICY

The American Pharmaceutical Association (APhA) announced its support of the antismoking policy adopted by the American Medical Association (AMA). The policy calls for local medical societies to commend pharmacists that do not sell tobacco products, encourages AMA members to promote tobacco-free pharmacies to their patients, and supports the development of smoking cessation programs.

Long before the AMA resolution, an APhA policy adopted in 1971 recommended that tobacco products not be sold in pharmacies. Many pharmacists have complied with this policy by refusing to carry cigarettes and tobacco products. APhA also has encouraged pharmacists to become involved in smoking cessation programs. "The main issue is not whether pharmacists discontinue selling cigarettes, but whether the public discountinues smoking them. The key, therefore, is public education, and APhA urges pharmacists to take active roles in smoking and health education programs," APhA policy states.

In his letter to APhA AMA Executive Vice President James Todd requested that pharmacists join physicians and public professionals in teaching patients how to stop smoking. "Acting as a team, we can succeed in the fight against the single largest cause of preventable death and illness in our society," Todd said.

The AMA letter pointed out that the use of tobacco products is one of the most serious public health problems, killing 435,000 people every year, and is a major cause of lung cancer, emphysema and chonic bronchitis and a principal cause of heart disease and stroke.

WELCOME NEW MEMBERS

The following have become members of the NCPhA since the last Journal issue. They join more than 2,600 colleagues in the Association who are committed to advancing the interests of pharmacy in North Carolina.

Guy Mosier, *Norcross GA*
Steven F. Tedder, *Greensboro*
Tom Fraley, *Roanoke Rapids*
William L. Howell Jr., *Raeford*
Ron Mamrick, *Warren OH*
J. Frank Pickard, *Greensboro*
Gayle L. Schroeder, *Endwell NYR*
Lori H. West, *Hendersonville*
Charles Buchanan, *Laurel Fork VA*
Cynthia Dascani, *Chapel Hill*
George Foose, *Durham*
R, Darrell Jenkins, *Raleigh*
Dristin McKeithan, *Lenoir*
William H. Morris, *Waynesville*
Tom Shields, *Richwood OH*
Betsy C. Williams, *Roanoke Rapids*
Richard D. Williams, *Morganton*
Barry Paoloni, *Annapolis MD*
Binakumari K. Patel, *Cary*
Jeff Peterson, *Research Triangle Park*
Joel W. Twiford, *Greenville*
Paul Keene, *Emporia VA*

CORRESPONDENCE COURSE

PATIENT COUNSELING, PART II: PHARMACISTS' IMPACT ON IMPROVED COMPLIANCE

Thomas A. Gossel, R.Ph., Ph.D.
Professor of Pharmacology and Toxicology
Ohio Northern University
Ada, Ohio

J. Richard Wuest, R.Ph., Pharm.D.
Professor of Clinical Pharmacy
University of Cincinnati
Cincinnati, Ohio

Goals

The goals of this lesson are to discuss patient consultation, provide data substantiating poor compliance with medication instructions, and present arguments supporting counseling as an important way to improve patient compliance.

Objectives

At the conclusion of this lesson, the participant should be able to:

1. define medical compliance, noncompliance, underutilization and overutilization;
2. exhibit knowledge of the reported extent and reasons for noncompliance; and
3. demonstrate an understanding of pharmacists' advice for improving medication compliance.

Survey results repeatedly show that patients do not comply well with medication instructions. While prescribers may discuss the therapeutic regimen with them, patients may be nervous and not listen to instructions. Pharmacists, therefore, are the logical resource to provide information about prescription medications when they are dispensed. Enhancing compliance will certainly lead to healthier patients. An effective counseling program is a positive force for pharmacists to enhance patient compliance.

This lesson identifies the extent of noncompliance, provides reported reasons why people do not comply, and provides data which strongly suggests that compliance is enhanced when pharmacists counsel patients.

Patient Compliance

Compliance is broadly defined as the degree to which a patient's behavior coincides with directions from a health care provider. It refers to how closely a person follows instructions on OTC or prescription product labels.

Compliance with instructions also includes areas other than medication therapy. For example, a physician may instruct a patient with hypercholesterolemia to adhere to dietary and exercise schedules, and a hypertensive patient to restrict salt intake. Pharmacists reinforcing physicians recommendations on non-

drug aspects of therapy will improve compliance with all aspects of health care.

Noncompliance is defined as doses not taken or taken incorrectly that jeopardize intended therapeutic outcomes. It can be subdivided into three classes: underutilization, overutilization, and malcompliance.

Underutilization of medication accounts for the largest group of noncompliant patients. It is estimated that approximately 75 percent of prescription medications are underused.

Overutilization of medication represents the behavior of approximately 10 percent of noncompliant patients. Most overutilized medication is reported to be with drugs affecting the central nervous system.

With **malcompliance**, individuals take the correct number of doses each day, but take them incorrectly, at inappropriate times, or for improper reasons. An example is a patient who is directed to take a single dose of a CNS-stimulating drug in the morning to avoid interference with sleep. Instead of taking the dose in the morning, she takes it in the evening. Refill records indicate that the patient is complying with her physician's instructions because she gets a 30-tablet refill each month. Since the number of doses taken within a prescribed time interval is correct, a pharmacist might not suspect that this person is noncompliant.

Determining the extent of noncompliance is made more difficult because of the large number of OTC and prescription medications that Americans take. Literature sources differ, but a conservative estimate is that one-third of patients almost always take their medication correctly, one-third rarely take their medication correctly, and one-third take their medication haphazardly.

Numerous examples illustrate the extent of patient compliance. In one study of patients with diabetes, only 10 percent were successful in managing their blood glucose levels, largely because of poor compliance with their physician's instructions. In the same study, 50 percent of hypertensive patients stopped taking their prescribed medication within one year of diagnosis. Additionally, over 75 percent of hypertensive patients in this study discontinued taking their medication after five years.

The extent of drug efficacy and improved health is directly correlated to patient compliance. In a 1989 study involving 113 patients who had been hospitalized with hypertension, those who complied with their therapeutic regimen were found to be more likely to stay out of the hospital. Over an 18-month interval, 28 patients were readmitted to the hospital with complications. Fourteen of them had taken their antihypertensive medication for less than one-half of the observation interval. Only one patient in the group who was *not* readmitted had been without medication for more than 50 percent of the time.

A recent study was undertaken to determine whether a computerized voice reminder system for prescription refills would enhance patient compliance. Over a six-month period, compliance increased from 53 percent for the control group, to 79 percent for the study group that received a refill reminder message.

Compliance can be computed each time a prescription is refilled (Figure 1). The system assumes that the patient does not have doses remaining. If there are doses left, the number of units must be figured into the formula. This method permits calculation of underutilization or overutilization, but will not detect malcompliance.

As shown in Figure 1, measuring compliance with a drug schedule requires only a simple calculation. Assume the patient is taking verapamil sustained-release tablets, one tablet daily for controlling hypertension. The prescription was written for 30 tablets. The last refill was 40 days ago. The compliance rate would be 75 percent.

Several advantages accrue from determining the compliance rate. First, it confirms whether or not the patient is compliant. Second, by knowing the patient's compliance rate, pharmacists have an opportunity to implement a consultation program and objectively evaluate the outcome.

After documenting a base value for compliance for a sample group and obtaining an average compliance rate, the next step is to implement a counseling program. Patients'

Figure 1
Method for Calculating a Patient's Compliance Rate

Compliance rate= # days' supply of Rx
(CR) # days since last Rx

CR= 30 days supply
40 days since last Rx

CR=75%

compliance rates can be documented by using the same approach as auditing prescription refills.

If it is noted that compliance improves after counseling, it is logical to assume that similar positive improvement will be possible for other medication groups. The same is true for OTC products that are taken for chronic conditions, e.g., antacids such as aluminum-magnesium combinations products for gastroesophageal reflux disease (GERD). The economic benefit of a counseling program that enhances patient compliance is that everybody wins.

The Cost of Noncompliance

As many as 125,000 premature deaths may occur each year because of noncompliance. Noncompliance costs may be as high as $15 billion annually, which is four times the annual medical expenditure due to automobile accidents. The high cost of noncompliance includes hospitalization, additional diagnostic procedures and medication to treat complications, physician and emergency room visits, absenteeism and low work productivity, and higher insurance premiums. The problem is particularly significant in chronic conditions.

Pharmacy's share of the high cost of noncompliance is staggering, with $1.4 billion lost each year because of unfilled prescriptions. According to the 1988 *Lilly Digest,* a typical American independent pharmacy dispensed 31,891 prescriptions which represented 17,210 new and 14,681 refilled prescriptions. The average new prescription written that year provided for 1.5 refills (e.g., 17,210 x 1.5 =25,815). In reality, only 14, 681 were actually dispensed.

Improved patient compliance through an effective consultation program with good communication should result in an improved prescription refill rate. The impact on the pharmacy's income could be significant. Table 1 revealed that net profit would increase between $5,400 and $26,805 as the number of prescription refills increased from 10 to 50 percent. Other studies have confirmed that patient education programs which involve counseling can provide a return on investment of five to 20 times their cost.

Understanding the Reasons for Noncompliance

Understanding why people do not comply with their medication instructions can provide a number of benefits. Once the reasons have been identified, it will be easier to address them and to train patients to modify or correct the causes of noncompliance.

Patient Factors. Table 2 presents reasons for many patients' inability or unwillingness to follow instructions. Some patients may make a conscientious effort to deviate from the prescribed regimen (i.e., *intentional noncompliance*), although many fully intend to take their medication as instructed.

Forgetfulness (absentmindedness) is the most commonly reported patient factor leading to noncompliance. It is also one of the easiest factors to correct.

The nature of the patient's illness may be a strong influence on compliance. For chronic diseases such as hypertension, diabetes, and hypercholesterolemia, complete compliance is difficult. Many people become discouraged with repetitive drug administration over a long period, especially if the medication does not *cure* their condition, and because many chronic conditions are asymptomatic.

Education and counseling can help correct most patient factors listed in Table 2. Forgetfulness may be suitably modified by helping people devise a system for remembering to take their medication.

Product Factors. Factors listed in Table 3 are examples of noncompliance characteristic of products. Some of these may not be easily modified. For example, a drug with the potential for abuse through overutilization will con-

Table 1
Potential Impact of Increasing the Number of Prescription Refills Through Improved Compliance

Increase %	Number of Refills	Increase Net Profit
10	16,160	$5,400
20	17,617	$6,318
30	19,085	$16,083
40	20,553	$21,444
50	22,021	$26,805

tinue to have that potential. All drugs may not be available in sustained-release formulations allowing less frequent dosing. In one investigation, compliance improved from 59 percent on a three-times daily regimen, to 75 percent on a two-times daily dosing schedule, to 84 percent when the dosing schedule was changed to a once-daily regimen. The greater the number of doses a patient needs to take each day, the higher the risk for noncompliance.

For patients with diabetes or coronary heart disease, medication errors were less than 15 percent when only one drug was prescribed. Errors increased to 25 percent when two or three drugs were taken, and to approximately 35 percent when five or more drugs were taken.

Drug cost is an important consideration. Patients may not comply with instructions if the medication is relatively inexpensive, or very expensive. In the former instance, they view the medication as ineffective and not worth their effort. In the latter case, they may not be able to afford it. They either skip doses or never purchase the prescription.

Pharmacist Factors. When a pharmacist dispenses medication and fails to counsel, the patient may surmise that the medication is unimportant or that there are no special dosing, administration or other requirements that must be met. If a pharmacist appears to be indifferent about a product, e.g., tells a patient that OTC products are inferior to prescription drugs when a physician suggested an OTC item, the patient may not take the medication seriously. Also, a cluttered pharmacy or prescription dispensing area sends a strong, but adverse message. *(Table 4)*

According to a report from the Department of Health and Human Services (HHS) released in 1990 entitled *Medication Regimens: Causes of Noncompliance,* patients' lack of information about drugs is one of the four most significant variables that has the greatest bearing on reasons why the elderly may fail to comply with their medication regimens. The HHS study estimated that 86 percent of elderly Americans suffered from at least one chronic disease, most frequently arthritis, hypertension or heart disease, that required medication. But 55 percent of these patients failed to comply in some way with their medication regimen. As the study results show, missed doses of medication can have serious consequences including rebound hypertension and cardiac arrest. Poor compliance with directions also contributes to adverse drug reactions, some of which can result in fatalities.

Pharmacists Can Improve Compliance

Studies have demonstrated that pharmacists can improve patient compliance. When pharmacists counsel patients, identify treatment goals, help patients track their progress toward these goals and emphasize the importance of long-term compliance, these individuals will be more compliant. In one investigation, consultation with a pharmacist before a patient left the hospital resulted in a 75 percent reduction in the previous high rate of deviation from prescribed drug regimens.

In the past, some pharmacists may have chosen to remain uninvolved in counseling for many reasons, primarily related to their demanding, time-consuming routine of dispensing prescriptions. Part may have been due to

confusion as to whose responsibility it is to assure compliance. Another reason may have been lack of financial incentive to do so. And, many other pharmacists have been counseling right along.

Pharmacists can reduce noncomplinace by emphasizing the importance of compliance. Patients may not realize that compliance is important unless pharmacists make it clear.

Patients who travel, or those who choose not to carry large, bulky containers of liquid medication, may miss doses. Skipping one dose of a twice-a-day dosing regimen represents a 50 percent noncompliance rate. Pharmacists can help improve compliance by offering a small medicine bottle (2 or 3 oz size) with a prescription label properly affixed. This will more easily fit into purse, briefcase, or suitcase.

Some patients feel cheated when they do not receive a prescription for what to them is a serious condition. An OTC product is the agent of choice for some conditions, and this therapeutic decision of the physician should be reinforced.

Manufacturers are Helping to Improve Patient Compliance

Pharmaceutical manufacturers have responded to the issue of noncompliance. Some have produced drug product combinations and longer-acting dosage form regimens requiring less-frequent dosing. Others have developed telephone reminder programs where patients receive personalized phone calls at specific times to remind them to take their medication.

Table 2
Reasons for Noncompliance: Patient Factors

- Patient cannot remember to take the medication
- Patient stops medication because of early symptomatic relief
- Asymptomatic disease
- Patient cannot read or understand instructions
- Patient does not understand the importance of compliance
- Patient has no transportation to the pharmacy

Table 3
Reasons for Noncompliance: Product Factors

- Complexity of drug regimen
- Specific physical properties
- Inconvenience of dosage forms (liquid, powders, large tablets, etc.)
- Disagreeable taste
- Cost
- Side effects
- Abuse potential (e.g., CNS-active drugs)

One such program, the *Wellspring Service*, utilizes various forms of patient motivation and emphasizes the pharmacist's ability to counsel and monitor patinets' medication use. When a patient receives a prescription for Tenormin, he is enrolled in the program and encouraged to comply with the physician's instructions. Pharmacists counsel with each refill. A newsletter and tips on diet, exercise, and stress reduction, along with coupons and free samples of other products are sent from the manufacturer. The patient also receives a reminder when it is time for a refill.

Another service is the Calan SR Patients in Compliance program. Physicians and pharmacists can distribute business reply cards to patients who receive new prescriptions for Calan SR. These patients complete the information on the card and place it in the mail to enroll in the program. An operator will telephone enrollees once daily (at a time the patient chooses) for the first week, five times the second week, three the third, and one the fourth and final week. Reminder calls will also be made when each refill is due. The calls are available in English and Spanish, and are intended to supplement pharmacists' patient counseling activities.

Table 4
Reasons for Noncompliance: Pharmacist Factors

- Lack of counseling
- Attitude about the product's importance
- Pharmacy's physical appearance

CORRESPONDENCE COURSE QUIZ

Patient Counseling, Part II: Pharmacists' Impact on Improved Compliance

1. Which of the following types of noncompliance is most difficult for a pharmacist to detect?
   a. Malcompliance
   b. Overutilization

2. The reported number of premature deaths caused yearly from noncompliance is approximately:
   a. 12,500.
   b. 125,000.
   c. 1,250,000.
   d. 12,500,000.

3. An example if malcompliance is:
   a. taking medication too frequently.
   b. taking morning doses in the evening.
   c. forgetting to take doses often enough.

4. Most of the cases of overutilization involve drugs that affect the:
   a. endocrine system.
   b. cardiovascular system.
   c. gastrointestinal system.
   d. central nervous system.

5. Using the formula for measuring compliance, a patient who has a 30-day supply of medication taken once daily, and does not refill the prescription for 40 days, would have which of the following compliance rates?
   a. 50 percent
   b. 66 percent
   c. 75 percent
   d. 90 percent

6. The Wellspring Service is offered by the manufacturer of which of the following drugs?
   a. Calan
   b. Lanoxin
   c. Cardizem
   d. Tenormin

7. In the HHS study *Medication Regimens: Causes of Noncompliance*, the agency estimated that 86 percent of elderly patients suffer from at least one of the following chronic diseases EXCEPT:
   a. emphysema.
   b. heart disease.
   c. arthritis.
   d. hypertension.

8. Which of the following types of noncompliance accounts for the largest group of noncomplying patients?
   a. Malcompliance
   b. Overutilization
   c. Underutilization

9. According to a table presented in this lesson, a 10 percent increase in refills due to improved patient compliance would result in profits in the average independent pharmacy of approximately:
   a. $540.
   b. $5,400.
   c. $54,000.
   d. $540,000.

(Note: There are only 9 questions with this lesson.)

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1. a b	4. a b c d	7. a b c d
2. a b c d	5. a b c d	8. a b c
3. a b c	6. a b c d	9. a b c d

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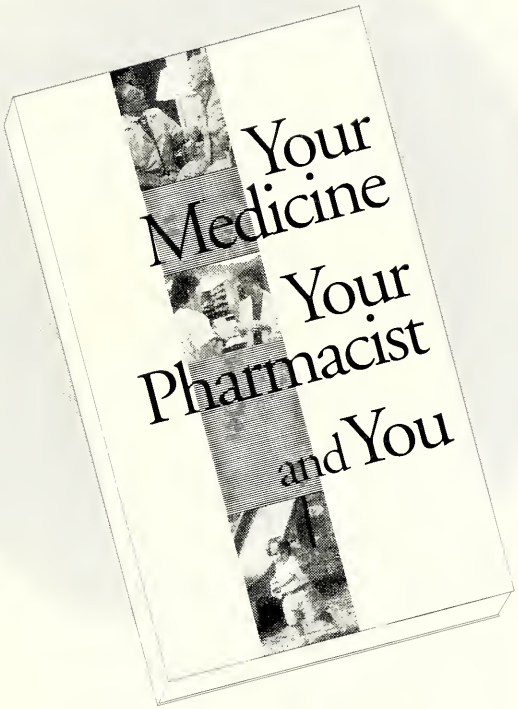

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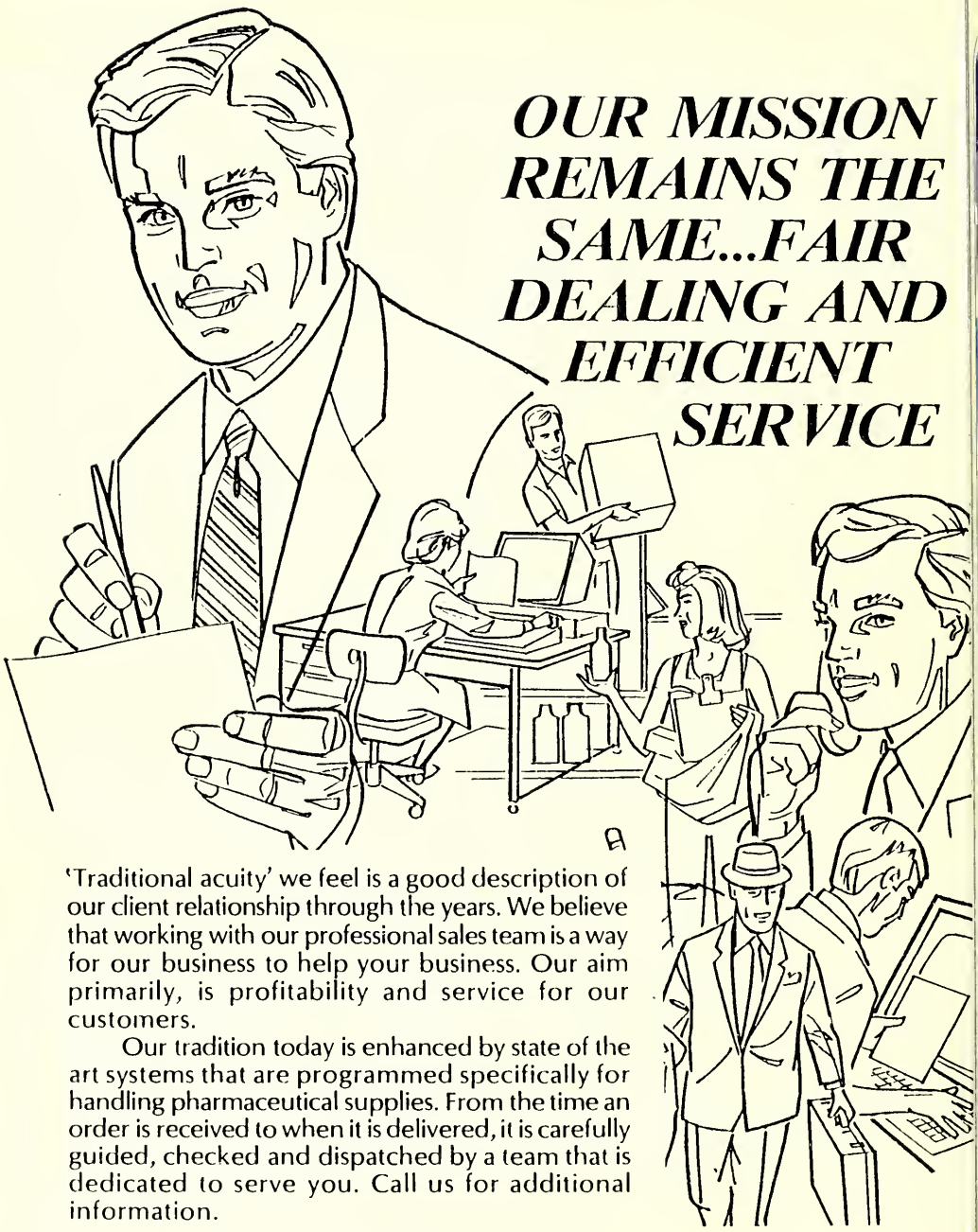

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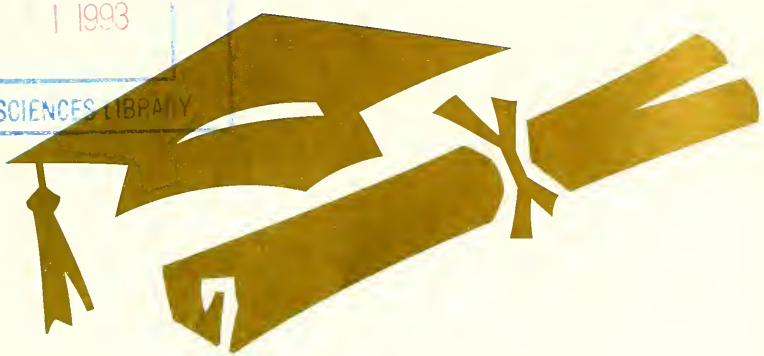

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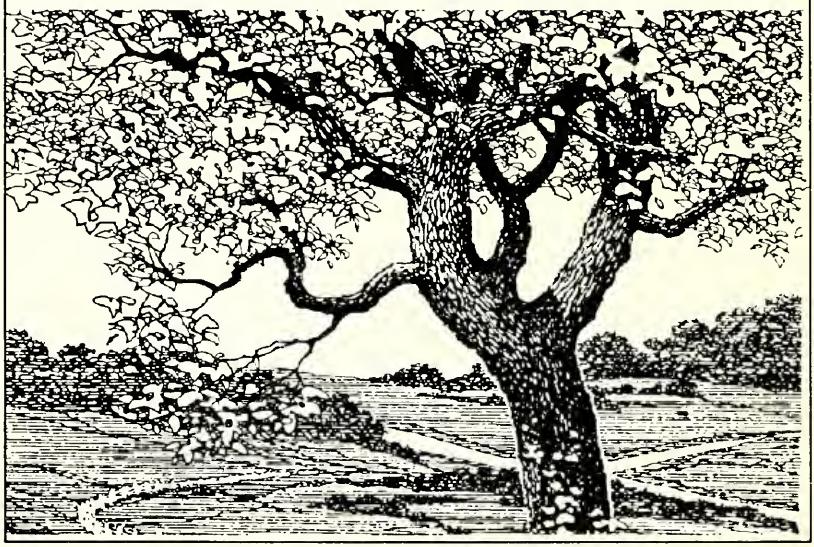

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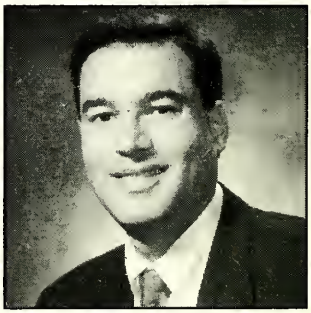

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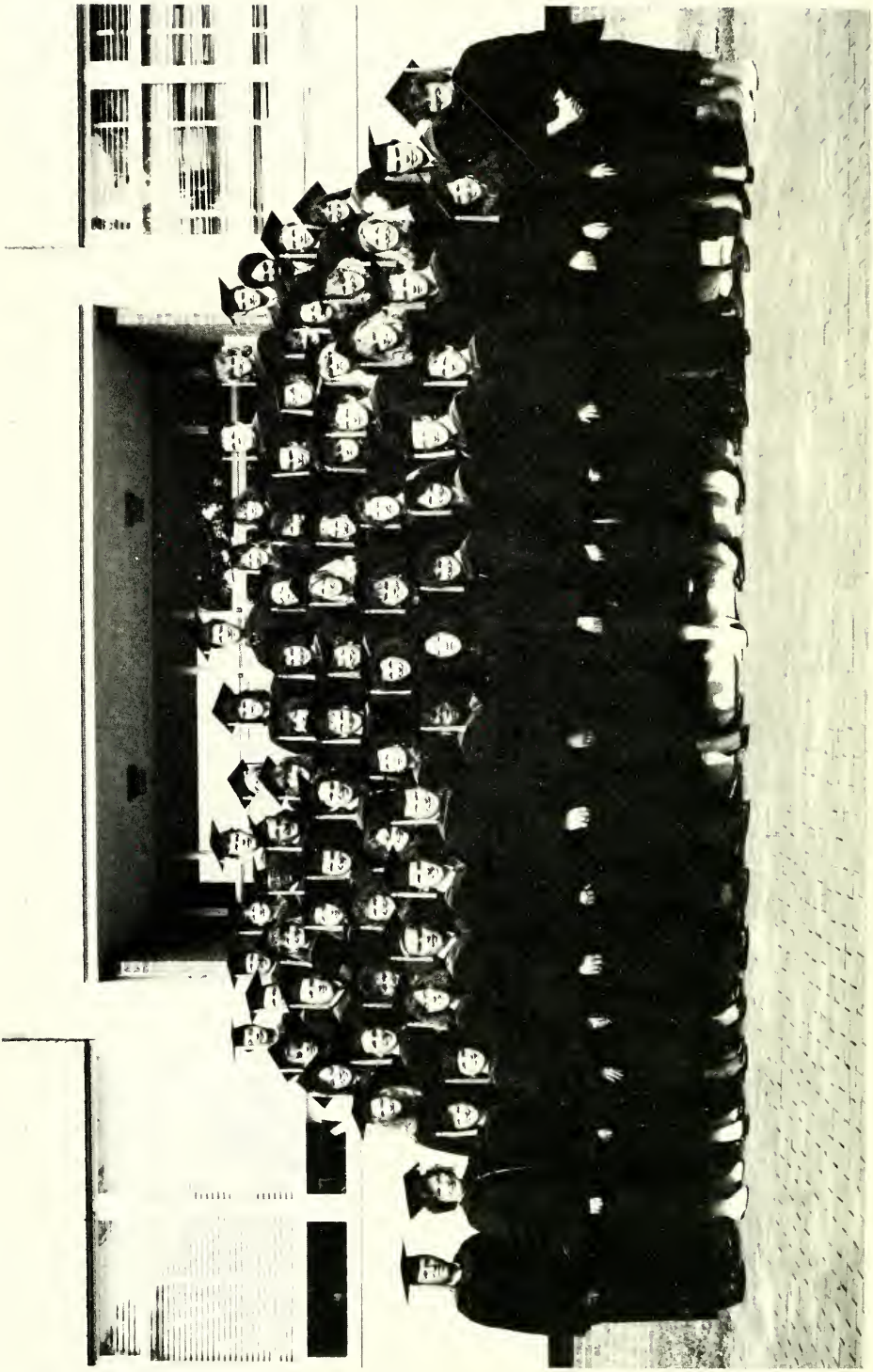

PHARMACY'S OPPORTUNITY TO SECURE ITS ROLE IN HEALTHCARE

Commencement Address by Garland F. Benton Jr., Director
National Accounts & Managed Care Markets
Miles Pharmaceuticals
at Campbell University on May 9, 1993

Thank you Dean Maddox, and good afternoon to you all. Thank you for inviting me to speak this afternoon. Because I am a strong supporter of education, a native Carolinian, and knowing how close Campbell is to a great golf course, your invitation was an easy one for my wife Pat and me to accept.

My official title at Miles Pharmaceuticals is Director of National Accounts and Managed Care Markets, sometimes known more simply as the Managed Care department. I also do quite a bit of moonlighting as a "Practitioner-in-Residence" at the Graduate School of the University of New Haven. Besides being a student, I am currently teaching management courses and am in the midst of developing an MBA course in Pharmaceutical Marketing and Managed Health Care. Believe me when I tell you that I'm no stranger to the Academic world (and) I am happy to be with you today for this joyous occasion.

There are many here I wish to congratulate. First, I want to recognize the parents and families of the graduating class. I know it was through their many individual sacrifices that your daughter or son arrived at this place, on this day. You certainly deserve our acclaim.

I want to offer my sincere congratulations to those of you graduating tomorrow. You enter the world of pharmacy at a most challenging time. I wish you the best of luck as you venture out into the "real world."

And what a world it is! Pharmacy is indeed at the precipice of its future. While I am ready to acknowledge that the profession currently faces formidable challenges, I am impassioned by the infinite number of opportunities that present themselves to pharmacists. As the country continues to focus its attention on the cost of healthcare, pharmacists are presented with a tremendous opportunity to not only shape their destiny as viable members of the healthcare team, but to make great contributions in controlling healthcare costs as well.

I'd like to take a few moments and focus on pharmacy's reaction to the healthcare crisis relative to the *economics* of delivering pharmaceutical care and the assured benefits that seizing such a challenge will bring. As it is, the pharmacy profession is directly involved in the economic crisis facing the US healthcare system. In fact, pharmacy professionals have often been criticized, as manufacturers and providers are often accused of excessive gross profits.

Victor Fuchs, the famous economist, has said, "Drugs are the key to modern medicine. As a means of technology, pharmaceuticals have done more to alleviate worldwide pain and suffering than any other institution."

Although the goal of healthcare remains to treat patients effectively, the business aspect of treatment is changing rapidly. The number of different organizations providing medical and pharmaceutical benefits *alone* is staggering. We have traditional indemnity plans, HMO's, PPO's, IPA's, EPO's, and PBM's. It not only sounds a lot like alphabet soup, but it can be very confusing trying to differentiate between them.

Robert Navarro, Pharm.D., a nationally known Managed Health Care leader, criticizes pharmacy students for their lack of knowledge relative to managed care providers. He was recently quoted as saying, "We have people graduating from pharmacy school who don't know what HMO stands for. They work in pharmacies that are 60% third party and they don't know who...we are!"

My advice to this graduating class is to make the business of healthcare, the business of

pharmacy, as much of your concern as the clinical activities you are involved in. You have an obligation to use your knowledge about drugs and their economic impact to educate both the health industry and consumers alike. It must be you, the pharmacist, who teaches that the judicious use of pharmaceuticals can cut overall healthcare costs tremendously, while at the same time providing optimum patient care.

Pharmacoeconomics is the wave of the future, a whole new discipline under which you will practice. I suggest that all of you make room for a *Fundamentals of Economics* textbook right alongside your *Drug Facts & Comparisons*. You will need to be using both as references in the very near future.

It must be you, the pharmacist, who teaches that the judicious use of pharmaceuticals can cut overall healthcare costs tremendously, while at the same time providing optimum patient care.

Consider for a moment that nearly 35 million Americans have no health insurance. Even more alarming to you, should be the fact that 82 million have no insurance coverage for their prescription medications. If we can prove the cost effectiveness of medicine, and I assure you we can, would it not make sense that those involved in healthcare reform would focus their attention on this statistic? Many of the players in managed care learned this lesson long ago. We, as a profession, need to broaden this message.

No doubt you have heard about OBRA, the Omnibus Budget Reconciliation Act of 1987. Many in pharmacy didn't recognize that the enacting of the OBRA regulations last fall was truly a milestone in the history of the profession.

OBRA's most immediate impact, aside from requiring pharmaceutical manufacturers to rebate to the Federal Government billions of dollars, some $1.2 billion of them in 1992, was to mandate that pharmacists offer to counsel Medicaid patients receiving prescriptions. Most state boards of pharmacy expanded this legislation to cover all patients in an ambulatory setting. There are many pharmacists, however, who have voiced their displeasure with this regulation. They say that while they would like to, they simply don't have enough time for counseling. My advice to you is **find** the time.

Pay no attention to the nay-sayers, those 'count and pour pharmacists,' many of them from the old school who have no time to counsel patients and provide those cognitive services that will allow your profession to prove its value. Remember that there are those who would diminish your role to a dispenser of medicines, a highly educated, highly paid clerk in a white coat. Believe me, counseling is not "one more thing to do;" it is, "the one thing you must do!" If pharmacy does not accept this responsibility there are other healthcare professions quite anxious to expand their practice responsibilities. I don't have to tell you if this took place, what the impact on pharmacy would be.

It is sad that it took a Federal law to mandate that pharmacists provide counseling to patients. That's almost like mandating that physicians must diagnose disease! It is what pharmacists should have been doing all along. Yet OBRA regulations have a much deeper intent than simply to encourage pharmacists to counsel patients.

The Omnibus Budget Reconciliation Act– now, why do you think that a regulation intent on advising patients on proper medication use would appear in a **Federal Budget Act**? The real reason that pharmacy services are being zeroed in on is because they make cents—dollars and cents! Through OBRA, the federal government has recognized that pharmacist intervention through counseling and Drug Utilization Review can elevate patient care standards and be cost effective as well.

A recent study conducted at Purdue University showed a $2.32 savings per prescription

when pharmacists actively partook in OBRA mandated activity. Now, $2.32 may not seem like a lot of money, but if that model was to be applied to all new prescriptions filled in this country last year—all 1.1 billion of them—we could have realized savings of nearly $2.5 billion dollars!

While there are several studies like the one from Purdue, we need more of them. I would ask practicing pharmacists everywhere to be willing to contribute their time to completing such studies. These studies will help provide the hard numbers and solid support justifying the job you do. Remember, in medicine there is a saying: "If you haven't documented it, you haven't done it." We need to show what we *can* do.

Pharmacy professionals cannot, however, simply say, "See, we can save money by reviewing prescriptions." As a profession, we need more. Imagine the types of interventions and the corresponding savings you could make if you had more patient data. It's almost impossible to do quality prospective DUR from the information supplied on a prescription. Most patients are poor historians and, at best, can only offer modest relevant clinical information. Pharmacy professionals need to lobby heavily to have greater access to patient data in order to fully realize their positive impact on prescribing.

Today I'm challenging you to change the perception that pharmacists lack economic savvy. As the most accessible of all healthcare practitioners, pharmacists should be foremost in explaining that prescription prices reflect a myriad of costs. These costs include more than 12 years of manufacture R & D, at an average cost of $230 million dollars per product. At Miles, we've boosted this year's R & D budget by 20% over last year to $438 million, reflecting a continued commitment to pursue development of advanced pharmaceuticals. With this, we have made some progress on AIDs, Alzheimer's, and recently on the treatment of hemophilia.

How successful the government's healthcare reforms will be will rely heavily upon the degree of grassroots support they receive from the American people. Here the profession has one tremendous asset: **TRUST**. In poll after poll, pharmacists are recognized as **THE** most trusted professionals in the country. The public arrives at its perception of pharmacists largely through their interaction with pharmacists at the community level. Those of you who choose to practice at the community level shouldn't take this responsibility lightly. The opinions being formed about pharmacists by the American public rest largely on your shoulders. Your ability to shape public opinion on pharmacoeconomic issues is the greatest, and the easiest, in this setting: one patient at a time.

The future for tomorrow holds tremendous wonder. New, highly advanced molecular specific pharmaceuticals, gene and bio-technology breakthroughs, the assured advances in diagnostic testing, and even OBRA, all summon you to answer the call to meet the challenges of tomorrow by starting with the actions you take today.

Pharmacy has a precious opportunity to prove its value and underscore itself as a dynamic member of the healthcare team. We must be proactive and substantiate the value we provide, not just for our own interests, but for all who can benefit from our services.

Today you are faced with an opportunity to redefine your destiny! Don't procrastinate and allow others to define what role pharmacists will be playing in healthcare. Carpe Diem! Seize the day!

Understand and get involved with the issues surrounding the profession for the betterment of yourselves and the patients you serve!

Thank you, congratulations again, and Godspeed!

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CLASS OF 1993

BE THE BEST THAT YOU CAN BE!

Commencement Address by W. Seymour Holt
Vice President, Health Care Accounts and Administration
Eli Lilly and Company
at the UNC School of Pharmacy
on May 16, 1993

North Carolina and pharmacy are very special to me. I grew up on a tobacco farm about 10 miles from here. My training in pharmacy has served me well as a practicing community pharmacist, and it enabled me to get a job with Eli Lilly and Company. My first job with Lilly was as a sales representative right here in Chapel Hill. I come back to North Carolina often, and many times it is because of my involvement with either the pharmacy schools or the state pharmacy association. My roots are deep in North Carolina soil and I am very proud of it.

Back when I was graduated from UNC in 1952, the world was in a very different state. The Korean War was going on and I had been deferred so I could get my pharmacy degree. Anyone not deferred was being drafted for the war. On the home front, polio seemed to be everywhere. Several of my friends and one pharmacy classmate contracted it. Paralysis was the usual result if you were lucky enough to live, often with the help of an iron lung. Few of you probably remember living with the fear of contracting polio. However, you probably know that President Franklin D. Roosevelt was afflicted with the disease. I can remember when they closed public swimming pools because of polio outbreaks.

At that time, pharmacists were making about six thousand dollars a year, average annual pharmacy sales ran around 100 thousand dollars, the average prescription price was approximately two dollars, and ten-day regimens of new antibiotics like Achromycin and Chloromycetin cost twenty dollars. Just think how the world has changed in the past forty-one years.

When people get to be my age, they tend to want to give advice about how others should live their lives. I want to avoid that today, if I can. What I would like to do is to share with you some thoughts about pharmacy and some observations about people.

I understand that some of you are receiving master's or Ph.D. degrees. Considering the expected shortfall of scientists and teachers, I compliment you for going into graduate education. I believe that you will find my remarks to be equally applicable in your own fields as will the pharmacy graduates.

By now all of you have heard that pharmacy is rated as the profession most trusted by the public. Most of you are aware what starting salaries are for pharmacists these days. You know that pharmacy is a good career for both men and women, particularly anyone who might want a flexible schedule. Maybe some of you decided to enter pharmacy for these reasons. But I wonder if any of you have ever considered what it really means to have pharmacists and modern medicines readily available just about anywhere you live in this country.

In the last several years, America has been faced with some totally **unexpected** health crises: Legionnaire's disease, toxic shock syndrome, AIDS, and a recurrence of tuberculosis, just to name a few. Up until that time, I think many people felt that modern medicines had conquered most communicable diseases. Well, we were able to solve the polio problem, Legionnaire's disease, and toxic shock syndrome after much work, and I believe we eventually will succeed in overcoming AIDS. These situations shook everyone up, however, and reminded us all how important pharmacists, other health care professionals, and modern medicines are in our lives.

But I think these situations also remind us that we must never let our guard down, that there still is much work to be done. As most of you probably know, there is a great deal of criticism today about the cost of health care. This is the basis for the health care reform

agenda with the new administration and Congress. Prescription medicines are on the front burner of the American public's concern, because many Americans pay for their medicines out-of-pocket. Because they don't see the charges which insurance companies pay for hospitalization or surgical or medical care, Americans may criticize having to pay $100 for a prescription which kept them from having to be hospitalized at a cost of many thousands of dollars. Few people ever stop to think what they get for the money they spend on pharmaceuticals and pharmaceutical care—which represents only a nickel out of the health care dollar! Incidentally, remember the price I quoted about new antibiotics in 1952? Those twenty dollar prescriptions would cost over a hundred dollars today based upon the average rate of inflation over that forty-one year period.

Think positive. It will serve you and the people around you well.

Abraham Lincoln's favorite son, Willie, died when he was eleven, from a respiratory infection he developed after riding his pony in a chilly rain. Calvin Coolidge Jr. developed a blister on his toe while playing tennis on the White House courts. It became infected, and he died from septicemia at age 16. No amount of money would have kept them alive, because the technology wasn't available. It's been said that, of all the people who ever lived, over half of them are alive today—and much of the reason why that's so is that modern health care technology makes it possible to reduce morbidity and mortality rates. Pharmaceuticals and pharmaceutical care also can help shorten or avoid hospitalization, return people to work faster, and maintain quality of life. Old age is no longer 70; it is often 90–100.

You pharmacy graduates are joining a profession which helps make all this possible! You have many years ahead of you and—if the new administration and Congress don't kill the goose that lays the golden egg of pharmaceutical innovation—you will have the opportunity to be part of a biomedical revolution that will literally transform health care for all Americans! You will see drugs to prevent or cure AIDS, Alzheimer's, cancer, and many other disabling diseases, and gene therapy which will correct deficiencies that predispose individuals to disease. As you head out into the world to face these challenges and opportunities, I'd like to share with you some observations I've collected over the years about people, about choices they made, and about how those choices affected their lives.

One thing I've noticed, after working with hundreds of people over the years, is everybody is different—different talents, different skills, different interests, different needs, and different wants. Successful people seem to be those who make the most of differences by building on their strengths.

When you look in a mirror, for example, how do you feel about what you see? What kind of yardstick do you use to measure yourself? Do you compare yourself to others—what they seem to be, to have, or to have accomplished? Or do you measure yourself in terms of how fully you feel you've lived up to what you're capable of? Lou Holtz, the noted foodball coach at Notre Dame, tells many stories about his star players. In every case, they learned to excel not by measuring how well they perform in comparison to other members of the team, but by how well they perform in terms of what they're capable of! In other words, like the Army's recruiting slogan, "Be the best that you can be!" Remember, everyone can't run like the Rocket (Ismail), but I am sure that each of you can do things that Ismail can't do. Lou Holtz commented in a speech not too long ago that he first recognized Ismail's tremendous athletic ability when he saw him playing tennis—by himself!

The world is full of illustrations about people who shattered all-time records—people who had high expectations for themselves and believed they could achieve them. Roger Bannister, for example, refused to acknowledge the four-minute mile was physiologically impossible. In 1954, he set a new record of 3:59.4 by breaking through a self-limiting attitude that was held by many runners at that time.

Remember, too, that aerodynamically the bumblebee can't fly, but it doesn't realize that!

If I accomplish nothing else in this speech, I hope I convince you how very important attitude is in anything you do. I like the words "infectious enthusiasm." To me this captures what it feels like and how you look to others, when you really believe in yourself and in what you're doing. If you can look in a mirror and honestly say to yourself, "I am a very important person, the job I have to do is an essential one, the products and services I have to offer are the very best, and the enterprise I work for is solidly behind me," then you are a very enthusiastic person and this sets you apart from the crowd. Your clients and patients will love to do business with you.

There is one thing that I've found every successful person has—a goal or set of goals. This might sound like some psychological mumbo-jumbo. But it isn't. It's a fact of life. Ever set out on a trip without first knowing where you wanted to go? Someone has said, "If you don't know where you are going, any road will take you there." It's certainly not too early for each of you to be thinking about your goals.

Having a goal or set of goals means making decisions about what you'd like to be doing at some point in your life. This may involve what kind of job you'll have, whether you'll be married or single, whether you'll be an entrepreneur or in management, what part of the country you'll live in, and so forth. What's more, you may decide to change your mind and your goals. But by having goals, you'll always have something to work toward. Goals should include check points and a timetable.

You should be the one to set those goals, not your parents or your friends or even your teachers. Sure, they can help you understand yourself better, help you learn what kinds of opportunities are available to you, and even help suggest possible goals you might want to consider. But goals are a personal matter. Only you know your true and complete feelings, your wants, and needs, and only you can determine what to set your sights on.

Much of what I've said today has dealt with making choices and how those choices can affect your life. You're entering an outstanding profession. But I'd be willing to bet that what you do with your life will have more impact on you than just the fact that you chose to be a pharmacist. In other words, it's not so much what you choose but what you do with what you choose!

I talked earlier about setting goals and I explained that goals are simply roadmaps to lead you to where you want to go. But some people concentrate so much on the goal that they lose sight of the road they travel to get there. Unfortunately, some people have goals for which they'll do almost anything. It seems to me that these people have misplaced their values. I'm talking about honesty, integrity, and just plain scruples. The Bible says, "It doesn't profit a man to gain the whole world and lose his soul." I have paraphrased this quotation with no one's permission. "It doesn't profit one much to gain the whole world and lose the respect of his family, friends, and other things which he deems important."

Henry Ford said, "You can do anything if you have enthusiasm. It's the yeast that makes your hope rise to the stars. It's the sparkle in your eye, the wing in your gait, the grip in your hand, the irresistible surge of your will, and your energy to execute ideas. Enthusiasm is at the bottom of all progress. With it there is accomplishment; without it, there are only alibis."

If you think you can...or can't, you're right!

Whether you think you can or can't is a direct reflection of your goals and attitude. Think positive. It will serve you and the people around you well.

Let me close with this thought. Life is actually a journey, not a destination. It would be terrible to arrive at your destination and not enjoy the trip. I have seen a lot of good, capable people become miserable people because they were terribly concerned about the next phase of their life at the expense of the present. Don't fall into that trap. As someone has said, "Take time to smell the roses along the way." I am a firm believer that you can't do anything very well, very long unless you are having a little fun along the way. Enjoy each day and each thing you do.

Good luck to each and every one of you!

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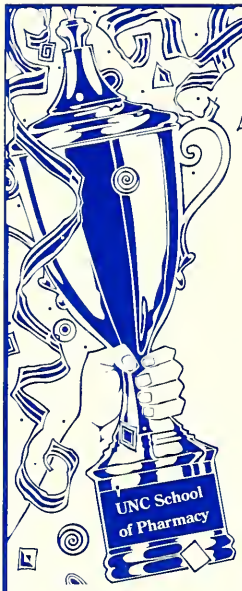

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NCPhA 93

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NEW LEGISLATION PROHIBITS COMPENSATION FOR REFERRAL

Kenyann G. Brown

On July 7, 1992, the North Carolina General Assembly ratified and placed into effect a bill prohibiting "health care providers" from offering compensation for referrals. The new statute, codified at G.S. 90-400 through 90-402, provides that persons licensed under Chapter 90 "shall not compensate in any manner a person, firm, or corporation for recommending or securing the health care provider's employment by a patient, or as a reward for having made a recommendation resulting in the health care provider's employment by a patient." It does not, however, prohibit the purchase of mass media advertising. The sanction for violation of this section is license suspension or revocation.

"Health care provider" is defined in the statute as any person holding a license issued under Chapter 90. Thus, the legislation affects pharmacists, physicians, registered nurses and licensed practical nurses, dentists, orthodontists, dental hygienists, optometrists and opticians, chiropractors, veterinarians, morticians, podiatrists, psychologists, physical therapists, marital and family counselors, occupational therapists, nursing home administrators, speech and language pathologists and audiologists, dieticians and nutritionists, and midwives. Hospitals and other health care facilities do not fall within this definition and are not expressly included in the statute. These facilities will obviously be affected, however, in that their relationships with health care providers who do fall within this statutory language could possibly violate the statute.

The statute prohibits "financial compensation **in any manner**," but does not define "financial compensation." This could include, in addition to direct or indirect monetary payments, free office space, below-interest loans, product discounts, or free services. The legislation also does not require that the health care provider **intend** to violate the section in order to be liable. Although the purchase of mass media advertising is permissible, the statute is vague as to what constitutes a "bona fide mass media outlet." Even payment to an outside marketing firm may fall within the prohibition if made on a per referral basis.

The final section of the new legislation provides that violation may result in suspension or revocation of the offending person's license. Responsibility for enforcement of the statute is left to individual licensing boards. In addition to license revocation or suspension, the board may refuse to renew a license or take "any other disciplinary action authorized by law."

Practitioners licensed under Chapter 90 of the General Statutes should review their contracts and practices to be sure that no payments or benefits are being made or given which could be construed as compensation for referrals. With regard to advertising, payment to mass media outlets or marketing firms on a per patient or per referral basis should be strictly avoided.

Finally, hospitals and health care facilities should review their relationships with health care providers to be sure referral practices are not a threat to the health care providers' licenses.

Kenyann Brown is an associate with Bailey & Dixon Law Firm, Raleigh.

October is the Month of the Pharmacist

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Let's Talk

Show your community the value of pharmaceutical care during National Pharmacy Week and "Talk About Prescriptions" Month. The American Pharmaceutical Association (APhA) offers materials for pharmacy week and the National Council on Patient Information and Education (NCPIE) has materials for the month promotion. Order special promotional kits from both organizations—it's never too early to start planning.

For your National Pharmacy Week kit, send a $5 check payable to Trexco, APhA's promotions company, 1251 Gordon Park Road, Augusta, GA 30901. For more information about the promotional kit and other available products, call APhA's Public Relations Department at 1-800-237-APhA. Some products can be specialized for your pharmacy but require 30 days notice.

Order your "Talk About Prescriptions" Month kit by sending an $8 check to "Talk About Prescriptions" Month kit, NCPIE, 666 11th St., NW, Suite 810, Washington, DC 20001.

HOME HEALTHCARE: THE VENDOR CHALLENGE

Greg Ehrhardt, Sales Director and Vice President
HME Division of Healthcare Computer Corporation, Forth Worth, TX

The "graying" of the population, coupled with technological advances and the fact that most Americans prefer recuperating at home, rather than in an institution following an illness or injury, are powerful factors that will contribute to a projected market of $19.5 billion by 1996 for pharmacy-related products to the home healthcare market.

The editors of *Computer Talk* aptly point out in their July/August issue that "Pharmacies that have committed to this business are a testimony to its potential. For computer vendors, these realities represent a new challenge, one that is more complex than pharmacy-management systems." They go on to say, "Once a pharmacy makes a commitment to durable medical equipment, a computer that can handle the many billing parameters and track outstanding receivables becomes a virtual necessity. Without a computer, pharmacists entering the market will be hard-pressed to make it profitable."

"Home health care is showing how computers make it possible for pharmacists to enter new markets and diversify their business base..."

Uncertainty about what it takes to make a profit is the major reason most pharmacists decide NOT to enter the volatile, ever-changing Medicare Part B billing environment. They know there is profit to be made and that DME is a natural addition to their profit base. As was stated in *Computer Talk's* cover story: "Home healthcare is a business that can lock in a revenue stream from a patient into your pharmacy for a prescription, you have the add-on sales from the ostomy side. With life expectancy on the rise, the revenue over time from this additional business can be substantial and, with non-durable cash items in particular, a very profitable business. Even rental items offer add-on products. Bed rentals can lead to oxygen and enteral and parenteral supplies. It is a winning combination. But getting into the business requires a commitment in dollars and staffing."

The pharmacist's DME system supplier should be dedicated to solving commitment and profitability problems that arise when the pharmacist decides to enter the Medicare Part B billing environment with the dedication needed to produce bottom-line profits. Computers and computer software are definitely a major investment. Ed Baker, President and C.E.O. of Healthcare Computer Corporation in Fort Worth, Texas, says, "We are in the software solution business, we know the importance of computers and software as a tool to higher profitability. We develop, market and support a complete line of computers and software systems, from retail pharmacy, to point-of-sale, to nurse management, to durable medical equipment. Though we market these products, we are committed to customer service first and foremost. Through this commitment we know that computers and software systems are NOT necessarily the answer to all the "ills" of dealing with durable medical equipment billing. Most pharmacists will agree that "the hassle" with DME billing is not worth the efforts."

Computer Talk says "Home healthcare is showing how computers make it possible for

pharmacists to enter new markets and diversify their business base. While home health care is coming under the same cost pressures as prescription drugs, it nevertheless is a logical line extension for pharmacy and a convenience for the consumer. The software is proven, the computers are affordable, and the market is growing. Home healthcare could be a boom for the pharmacy profession and its computer vendors in the coming years. All the ingredients are there." All the ingredients that is, but one—the volume of claims to justify spending $4,000 to $20,000 for a computer and software system; $12,000 to $20,000 per year per person to hire personnel to staff a billing department; $1,500 per year for forms, letters, claims, postage, invoices and supplies to be able to bill and approximately $5,000 per year tracking CMN's, payment denials, capped rentals, referrals, physicians, carriers, rules, regulations, training, maintenance, mailings, postings and monitoring system enhancements. This adds up to $20,000 to $35,000 per year to "jump" into the durable medical equipment billing environment. (If you submit 100 claims per month this represents $17.00 to $28.00 per claim for processing plus the COST of the item.)

Ed Baker believes that "Every pharmacist should have and want the opportunity to enter new markets and diversify his business base, but a large percentage of pharmacists either cannot afford to or do not want the **headache** of starting and maintaining a billing department. The pharmacist should be able to **try out** the marketability of durable medical equipment. He should be able to develop a marketing strategy, implement plans and develop a DME client base without worrying about whether he will get paid, or whether he is being paid what he should be paid, or whether he is making money or losing money. The pharmacist now has the opportunity to do just that—**jump** into the market without investing a fortune and waiting for reimbursement on each $40.00 claim."

The pharmacist's DME software company should offer him a way to avoid spending a "fortune" to find out whether or not DME would be a profit center for his pharmacy. They should be able to allow a pharmacist the ability to do what he does best, take care of his customers and make a profit, without "any" worry of being paid. They should allow the pharmacist the ability to build a client base and make instant profits, while they build "his" billing department without a hassle to him. They should submit his billing, from primary and secondary claims to co-pay invoices, then follow-up those claims to insure payment of "all" monies due him. They should track all prescriptions, issue renewals when necessary and follow up those scripts so the pharmacist does not experience a stoppage of reimbursement. They should be able to supply the pharmacist with lists and labels of patients, referral sources, and carriers to allow for marketing campaigns. They should track all payment adjustments and make the pharmacist aware of any rules and regulation changes before those changes affect his profitability. They should supply the pharmacist monthly with detailed aged receivables, cash receipts and adjustments, sales and rental analysis and held item reports. They should also make him aware of areas of concern so he will be able to make accurate and informed business decisions.

The pharmacist's DME system supplier should provide all of this, before they sell him a "fortune's" worth of hardware and software. While he is building his business, they should provide this service for at least half the per-claim cost of what it would cost the pharmacist if he did invest a "fortune" for an in-house system.

Ed Baker relays, "If the pharmacist's DME supplier or software dealer is truly 'watching out' for the pharmacist, then they will offer this service. If not, then the pharmacist **will** truly spend a 'fortune' jumping into the DME environment."

When the DME supplier or software dealer is dedicated to the pharmacist's "bottom line" as clearly as they are to their own, the pharmacist will benefit from the knowledge that he will be able to devote all his expertise and energies to making the DME side of his business a strong and profitable base, without footing the expense of gearing up and main-

taining a billing department. He will also know that when his DME business is ready to take on the burden of in-house billing, all of his records and files will be in place, ready for immediate transfer, without a glitch or hesitation in reimbursement.

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ACHIEVING NEW DIMENSIONS

The most dramatic events in the history of our nation relating to health care and the provision of health care services are occurring today. The future, our destiny as pharmacists, as health care providers, is evolving as you read this article.

Whether or not that future is bright or bleak depends upon how organized pharmacy collectively meets this challenge. What our organizations can do, though, is no more than the sum total of our collective resources...in terms of both dollars and sense.

The dollars are, of course, memberships. The "sense" is the place in society that we as practitioners, collectively, in every practice environment, have earned over the past decades. The question is, "Have we met the challenges of the past?" If not, we must propose a challenge for the future that most of our practitioners can and will meet, particularly since it would probably be under the threat of failure? In education the constant pursuit is "to publish or perish"; in the world of pharmacy practice it will be "to practice pharmaceutical care or perish!"

William Clinton's election as president has insured that the public clamor for a national health plan will become reality in the 21st century. The plan's ideal size, shape and scope varies widely in the opinions of Washington experts, but few would argue with the claim that (health care) things will be different in the years ahead.

A primary task for our pharmacy leaders is to crystallize the agenda upon which we advance our action platform.

Do we defend our historical role in the delivery of essential health care services? Or, do we prescribe an expanded role for pharmacists, recognizing that other health care professionals, most notably nurses, will be taking this approach?

Do we claim a primary health care role based on our achievements of the past; or do we strive for new horizons in a new health care system in which automation, instant information networks, high tech systems and new medications will figure prominently. Pharmacy tomorrow will be as different and alien to us as black & white television was to the radio buff or the "computer in every pharmacy" to the manual typewriter for some pharmacists? (Seems like just yesterday.)

John W. West, Michigan pharmacy leader, speaks out for a national action agenda.

Health care reform can be the unifying focal point of the community of pharmacists providing essential care for our patients. It is time to move from the philosophical debate to operational models of pharmacy care. I believe they exist today at the grass roots level of our profession, in every state across the country. These models of care must be identified, glamorized and advanced as examples of what can be done on a wide scale basis in tomorrow's health care system, wherein patient care and health care economics are finally recognized as mutually compatible goals.

As the debate on health care reform unfolds, it is apparent that the states will be given extensive latitude in the development of health care systems. Quality of pharmacy services and access to them will be critical issues. It is vital that our economic focus be directed to a new reimbursement approach, recognizing the

true value of comprehensive professional services to total patient care, not just the dispensing of medicines.

The strategies for implementation of pharmaceutical care will be developed and tested at the state level. These must then be advanced to the national action agenda. National and state pharmacy PACs must be working side-by-side to achieve this coordinated objective. Each national organization brings an essential role to the stage. State associations and state societies must unite their objectives in an improved health care system.

Formularies, pharmacy and therapeutic committees, and other tested hospital pharmacy concepts must be integrated with the goals of a managed care program. Pharmacy needs the kind of leadership that can coordinate the care roles of pharmacists in every segment of practice.

We need leaders who can develop strategies, assess options and allocate resources from a position of knowledge and experience. I believe it is time to coordinate the national and state pharmacy PACs to advance a plan which guarantees appropriate quality of and access to pharmacy services, provides essential pharmaceuticals, recognizes the pharmacists' expanded role, and ensures rational medication use.

I believe the members who provide the dollars ($) have the sense to demand this coordination among the national organizations and, in turn, with state associations and state societies also working together at the site of action.

Accordingly I prepared this special article and have asked each state association to advance this action agenda by publishing it in their publication(s). I hope you agree and, if so, will speak out so this precious time in our destiny becomes our legend to the new ways for the new days ahead! I believe it is time to coordinate the state and national pharmacy PACs in order to advance a plan which guarantees appropriate quality of and access to pharmacy services, provides essential pharmaceuticals, recognizes the pharmacists' expanded role, and ensures rational medication use.

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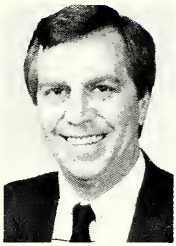
This Program Sponsored By The Colorado Pharmacists Association and the NCSPAE

CORRESPONDENCE COURSE

PATIENT COUNSELING — SLEEP AND SLEEP DISORDERS, PART I: SLEEP PHYSIOLOGY

Thomas A. Gossel, R.Ph., Ph.D.
Professor of Pharmacology and Toxicology
Ohio Northern University
Ada, Ohio



J. Richard Wuest, R.Ph., Pharm.D.
Professor of Clinical Pharmacy
University of Cincinnati
Cincinnati, Ohio

Goals

The goals of this lesson are to explain the physiology of sleep and categorize sleep disorders, to enable pharmacists to effectively counsel patients.

Objectives

At the conclusion of this article, the participant should be able to:

1. choose the meaning of NREM, REM, delta sleep, and slow-wave sleep;
2. differentiate between events characteristic for stages 1, 2, 3, and 4 sleep;
3. identify neurotransmitters involved in sleep physiology, and state their proposed activity in promoting or opposing sleep;
4. select components of polysomnography and state what each means; and,
5. select from a list information to convey to patients who express concern about their sleep patterns.

Today there is a need for improved public awareness of and education about sleep disorders. Health-care providers must be especially cognizant of the needs and problems of all patients. Complaints about difficulty in sleeping, especially if they persist, should be taken seriously and treated appropriately. Troubled sleep affects the lives of older people especially. It can worsen other illnesses and cause confusion, frustration, and depression.

Humans spend approximately one-third of their lives sleeping. Disturbances in the normal patterns of sleep can have a detrimental impact on the quality of a person's life. In some cases, these can be life-threatening.

Average sleep times differ widely among individuals. Newborns, for example, need 16 to 18 hours per day. Children to age ten need approximately 9 to 10 hours. Adolescents require 7.5 to 8 hours. The elderly, on average, sleep about 6.5 hours nightly.

Surveys report that 25 to 35 percent of respondents had some complaint concerning inadequate sleep during the previous year. There are numerous exceptions, but true insomniacs (persons whose quality of sleep is compromised) tend to be elderly women who have high levels of stress and multiple health problems.

This lesson explains the physiological basis for sleep. It discusses the biochemical reactions involved. It also describes various stages of sleep, and presents information to convey to patients who express an interest in the topic.

One intent of this lesson is to stimulate interest in counseling patients on sleep and sleep disorders. Being reasonably familiar with these concepts can help health professionals contribute to patients' well-being by aiding them in getting a good night's sleep.

Sleep

It is estimated that approximately 5 to 6 percent of women over 40 years of age, and 7 to 9 percent of men in their seventies and eighties use hypnotics or other psychotherapeutic agents to induce sleep. Most users of hypnotic drugs state they take them for short periods of time, usually from one day to two weeks. Only 11 percent of hypnotic drug users report taking the drugs regularly for a year or more. An additional 3 to 4 percent of Americans use nonprescription sleep aid products.

Sleep Physiology

During sleep, the brain stem selectively limits its sensory input upward to the cerebral cortex. Sleep actually provides a period of temporary loss of consciousness.

Sleep deprivation can cause serious adverse mental and physical effects. The amount of sleep received the previous night can affect a person's alertness the next day. Sleeping for too long a period can also cause a *hangover* the next day. This is explained partly in that the brain remains active during sleep. The function of sleep can be compared to downloading a computer of its data after the pharmacy closes for the day. Dreaming plays an equally important role in restorative activities. Therefore, like the analogous computer, following sleep, humans are set to take on and process new information the next day.

Sleep deprivation is associated with development of bizarre behavior and temporary neurosis and/or psychosis. After four to five days of deprivation, there is a decrease in the body's energy mobilization. Adrenocorticoid blood levels are elevated, and chemicals similar in structure to serotonin and LSD appear. Memory fails. Normal mental acuity is impaired and attention span becomes severely limited. Hallucinations are common, perhaps brought on by the LSD-like substances mentioned above. Hallucinations and reality may eventually merge into a continuum from which sleep is the only release.

Poor sleep at night with resulting sleepiness during the day is a major contributor to work-related accidents and lost productivity. The U.S. Department of Transportation reports that 200,000 automobile accidents are caused each year by drivers who fall asleep at the wheel.

There may be a link between sleep and maintenance of the immune system. Endogenous chemicals that foster sleep and have a role in the healing process have been discovered. Evidence is mounting that sleep allows the body's immune system to be regenerated. For example, one substance, called factor S, stimulates production and release of interleukin-1 which aids in the body's defense against disease. The immune response seems to be so dependent upon adequate sleep that it may eventually be categorized as a component of the infection-fighting mechanism.

Adverse effects of sleep deprivation are explained by summarizing activities that are thought to occur during the most important periods of the sleep cycle: stages 3 and 4 of non-rapid eye movement (NREM) sleep, and rapid-eye movement (REM) sleep. Sleep stages will be discussed in greater detail shortly. It is believed that stages 3 and 4 of NREM sleep provide the body with a period during which it can restore cellular activity. During this time, biological processes are restored, and the depressed metabolic rate that occurs during this time may allow for conservation of energy. There is increased secretion of growth hormone during stage 3 and 4 of NREM sleep, especially in children and adolescents.

REM sleep is also important. Current thinking is that there is increased protein synthesis in the CNS throughout REM sleep. Additionally, depleted neurotransmitter levels, which are responsible for thought and other CNS activities, are restored.

This may be the physiological purpose of

dreaming. There is evidence that REM sleep is needed for discarding unusable information collected during the previous period of wakefulness, and for cataloging and maintaining memory, emotional balance and mood stability. Dreaming is thought to be a mechanism by which the brain integrates old and new input into new patterns allowing for psychic growth and personality development. Creative thinking may also take place during REM sleep.

Brain Chemistry and Sleep

The thought process, memory, perception of internal and environmental stimuli, wakefulness and sleep all result from numerous biochemical reactions and interneuronal communications within the brain. When concentrations of neurochemicals are in proper balance, a person sleeps comfortably. When out of balance, that person may suffer from a sleep or mental disorder.

Since hypnotic drugs modify acetylcholine, dopamine, GABA and/or serotonin activity, a brief discussion of their roles in natural sleep is in order.

Acetylcholine is a major stimulus for alertness. Within the brain, acetylcholine also helps initiate and maintain REM sleep (along with the other neurotransmitters) depending on the overall activity of the CNS (the point to remember is *balance* of neurotransmitters). Administration of an anticholinergic drug reduces arousal. This is the basis for use of OTC antihistamines (i.e., drugs such as diphenhydramine and doxylamine) whose anticholinergic activity provides sleep aid activity.

Dopamine can be either inhibitory or stimulatory, depending on the site of action in the brain and its concentration. Dopamine increases blood pressure and muscular activity, and stimulates the thought process. Experts stress that for sleep to occur, dopamine activity must be reduced. However, once the person is asleep, dopamine assists in maintaining REM sleep.

Gamma aminobutyric acid (GABA) is an inhibitory neurotransmitter. Nearly 90 percent of all GABA produced in the body is secreted in the brain. GABA is considered to be the most important inhibitory neurotransmitter in the upper brain stem where sleep is regulated, and in the foreparts of the higher centers of the brain.

GABA inhibits the activity of an area within the brain stem called the locus ceruleus. This is important to understanding sleep and sleep disorders because the most widely used hypnotic drugs (benzodiazepines and imidazopyridines) are active at this site in the brain stem, and enhance GABA-induced sleep.

There are three stages in the movement of impulses throughout the CNS to convey information to the brain concerning events internally throughout the body, and externally in the environment. Transmission of electrical impulses along neurons involves three steps: (1) resting, (2) depolarization, and (3) repolarization.

During the resting stage, the inside of the neuronal cell membranes is negatively charged in relation to extracellular fluids. In this stage, the neuron is polarized. When stimulated, sodium ions enter. These positively charged ions change the electrical charge inside the neuronal membrane making it less negative. The neuron is then depolarized.

Table 1
Comparison of REM and NREM Sleep

	REM	NREM
Brain waves	Mixed, frequent	Slow, delta waves
Muscle movement	Absent	Present, but slow
Eye movement	Rapid	Absent
Autonomic nervous system	Variable	Regular
Control of respiration	Altered	Same as awake

With depolarization, an electrical current begins at the point of depolarization and moves along the length of the neuron to its terminals in a wave-like manner. There, the electrical current releases neurotransmitters. The neuron then repolarizes back to its resting stage.

When released from neuronal terminals, neurotransmitters move across synapses (spaces between nerve fibers) and pass the electrical charge to adjacent receptive neurons. This is how neurons communicate with each other. Summation of all activity results in a thought when the impulses reach the brain, and a reaction when impulses travel from the brain to the periphery. This explains why some persons have difficulty falling asleep or remaining asleep: there are too many stimulatory impulses coming up the brain stem, or there is an imbalance in stimulatory versus inhibitory neurotransmitters being secreted in the brain stem.

The inhibitory action of GABA is due to its activity on chloride transport into neurons. By enhancing entry of chloride ions into neurons, GABA increases the level of the negative charge inside the neuronal cell membrane.

Recalling the concept of polarization and depolarization, it can be seen that the increased negative charge requires greater than normal sodium ion entry into the cell to depolarize it. This phenomenon is called hyperpolarization. Depolarization and subsequent repolarization of neurons is an all-or-nothing phenomenon. Therefore, the hyperpolarization caused by the increased negative charge within the neuron renders it unable to depolarize and fire.

To summarize GABA's role, it decreases neuronal ability to pass impulses upward through the brain stem; thus, its inhibitory action prevails. The greatest release of GABA in the brain stem and cerebral cortex occurs during natural sleep. Therefore, drugs that enhance GABA activity produce quality sleep. These drugs are the basis for modern day hypnotics, and are most useful for medical treatment of sleep disorders.

Serotonin also plays a role in sleep. Serotonin exerts an inhibitory action that opposes the stimulatory effects of dopamine. Serotonin nerve fibers run in proximity to the norepinephrine/dopamine neuronal network. Similar to GABA, serotonin is important in the late stages of NREM sleep which is controlled in the brain stem.

Electrophysiology

The standard method for observing and measuring sleep in the sleep laboratory uses electrophysiological instruments. These are the electroencephalogram (EEG) which measures brain activity, the electrooculogram (EOG) which measures eye movement, and the electromyogram (EMG) which measures muscle movement in the jaw. The minimal recordings necessary for adequately scoring sleep stages are two EOG's, one EEG, and one EMG. A number of other physiological variables may also be needed to identify specific sleep disorders. These will be discussed shortly.

A professional development program made possible by an educational grant from

SEARLE

The recording process is referred to as polysomnography. Using portable instruments, it is now possible to record sleep patterns in the patient's home to permit more realistic results due to familiar surroundings, as compared to a sleep laboratory.

Sleep Stages. Sleep is categorized as NREM and REM (Table 1). NREM sleep is further subdivided into stages 1 through 4.

Wakefulness on a polysomnograph recording is characterized by rapid EEG tracings, high muscle tone, and various eye movements that include blinking. NREM and REM sleep occur alternately throughout the night.

Polysomnograph readings during **stage 1**

show low level EEG activity, slightly decreased muscle tone, and slow, rolling eye movements. Individuals experience this stage in different ways. Some experience it as wakefulness, others as drowsiness. Stage 1 is a transition phase between wakefulness and sleep.

During **stage 2**, an individual may experience a drifting or floating sensation. If awakened during this phase of sleep, the person will often deny being asleep, and may jokingly respond that he was "...just resting my eyes."

Stage 2 sleep is the first period of real sleep because reaction to non-irritating external stimuli is lost. Brain activity shows tracings that are short in length and fragmented. Approximately one-half of total sleep time occurs at this level.

Heart rate and respiration slow and muscles relax during **stages 3 and 4**. Individuals do not respond well to external stimulation and are hard to awaken. Brain activity increases, but it is internalized rather than responding to external activity. Together, these two stages are often referred to as delta sleep, which is the deep, restorative sleep that most people (especially insomniacs when they are able to experience it) describe as *restful* sleep. Stages 3 and 4 collectively are also termed slow-wave sleep, because of the characteristic EEG pattern. There are few eye movements in NREM sleep. Patients who are deprived of delta sleep experience impaired daytime alertness and performance.

REM sleep is characterized by EEG recordings that are similar to that seen in stage 1, but there is decreased muscle tone and bursts of rapid movements of both eyes. Dreaming occurs during REM sleep and reports of dreaming can be obtained about 90 percent of the time when subjects are awakened during or at the end of REM periods. The high brain activity and rapid eye movement denote that the individual is observing events he perceives are happening. The decreased muscle tone may function to protect him from acting out the dreams.

Sleep Cycle

The nature of sleep in normal young adults is cyclical. These individuals quickly move from being awake through stages 1 and 2, and then spend a moderate amount of time in delta sleep. About 90 minutes after onset of sleep, they enter the first REM period which may last only 5 to 7 minutes.

This cycle is repeated four to five times each night at 70- to 90-minute intervals. As the night progresses, less time is spent in delta sleep. This stage is thought to be significant for the immune system to function effectively. REM periods lengthen and intensify both physiologically and psychologically. The final REM period of the night may last 30 to 60 minutes. On average, people spend about 75 percent of the night in NREM sleep, and the remainder in REM sleep.

The typical sleep pattern just described can differ significantly in the elderly. Older persons spend considerably less time in delta sleep. They experience more light sleep, increased awakenings during the night, and more disrupted sleep. While they may sleep less during the night as compared with younger adults, it is unclear how much daytime nap-

Table 2
International Classification of Sleep Disorders (ICSD)*

I. Dyssomnias
A. Intrinsic sleep disorders
B. Extrinsic sleep disorders
C. Circadian rhythm sleep disorders

II. Parasomnias
A. Arousal disorders
B. Sleep-wake transition disorders
C. Parasomnias usually associated with REM sleep
D. Other parasomnias

III. Medical/psychiatric sleep disorders
A. Associated with mental disorders
B. Associated with neurologic disorders
C. Associated with other medical disorders

*Modified list; for complete description, see *International Classification of Sleep Disorders* (Diagnostic Classification Committee, American Sleep Disorders Association, 1990)

ping and specific sleep pathology (e.g., sleep apnea and periodic limb movements) contribute to this decrease. Elderly persons also nap more during the day than younger adults, on average.

Sleep Disorder Classification

The International Classification of Sleep Disorder (ICSD) is a very extensive listing and description of sleep disorders that can be subdivided into the basic categories shown in Table 2. There are further subdivisions than those listed in the table since it is condensed due to space limitations. It was published through joint effort of the American Sleep Research Society, the Japanese Society of Sleep Research, and the Latin American Sleep Society.

Overview

Even though humans spend approximately one-third of their life sleeping, few give it much thought unless it is disturbed. In the next part of this two-part series, one of the most common sleep disturbances, insomnia, will be discussed.

CORRESPONDENCE COURSE QUIZ

Patient Counseling—Sleep and Sleep Disorders Part I: Sleep Physiology

1. All of the following are true statements EXCEPT:
   a. sleep provides a period of temporary loss of consciousness.
   b. the brain is inactive during sleep.
   c. sleeping too long can cause a hangover.
   d. dreaming plays an important role in restorative activities.
2. What is the inhibitory neurotransmitter that opposes the stimulant activity of dopamine?
   a. Acetylcholine
   b. Dopamine
   c. Gamma aminobutyric acid
   d. Serotonin
3. Evidence is mounting that sleep allows which of the following systems to regenerate?
   a. Cardiovascular
   b. Hepatic
   c. Immune
   d. Pulmonary
4. Persons LEAST likely to be true insomniacs would be those who:
   a. participate in strenuous exercise.
   b. have a high level of stress.
   c. suffer from multiple health problems.
   d. are elderly women.
5. After 4 to 5 days of sleep deprivation, chemicals similar in structure to which of the following appear in the blood?
   a. LDH
   b. LSD
   c. PCP
   d. PTZ
6. Which of the following neurotransmitters is best described as a major stimulus for alertness?
   a. Acetylcholine
   b. Dopamine
   c. Gamma aminobutyric acid
   d. Serotonin
7. All of the following represent estimated percentages for each group presented EXCEPT:
   a. 3–4 percent of Americans use OTC sleep aids.
   b. 5–6 percent of women over 40 use hypnotics or other psychotherapeutic agents.
   c. 7–9 percent of males over 70 use hypnotics or other psychotherapeutic agents.
   d. 50-55 percent of Americans use hypnotic drugs regularly for a year or more.

8. The stages of sleep believed to provide the body with a period during which it can restore cellular activity are:
   a. stages 1 and 2.
   b. stages 1 and 4.
   c. stages 2 and 3.
   d. stages 3 and 4.

9. Which of the following neurotransmitters is best described as the most important inhibitor of neurons in the upper brain stem where sleep is regulated?
   a. Acetylcholine
   b. Dopamine
   c. Gamma aminobutyric acid
   d. Serotonin

10. The inhibitory effect of the neurotransmitter referred to in question #9 is due to its action on:
   a. bicarbonate transport.
   b. calcium transport.
   c. chloride transport.
   d. potassium transport.

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Part I: Sleep Physiology

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Please circle correct answer

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3. a b c d	6. a b c d	9. a b c d	10. a b c d

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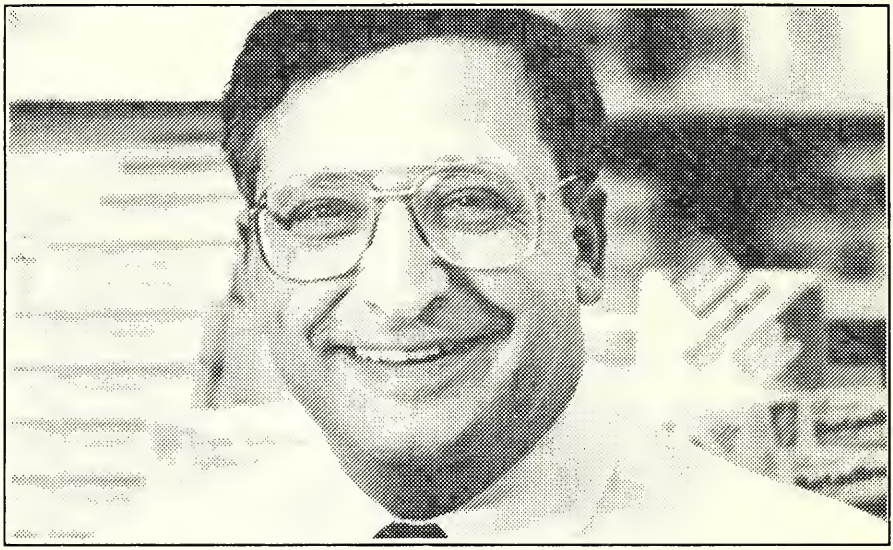

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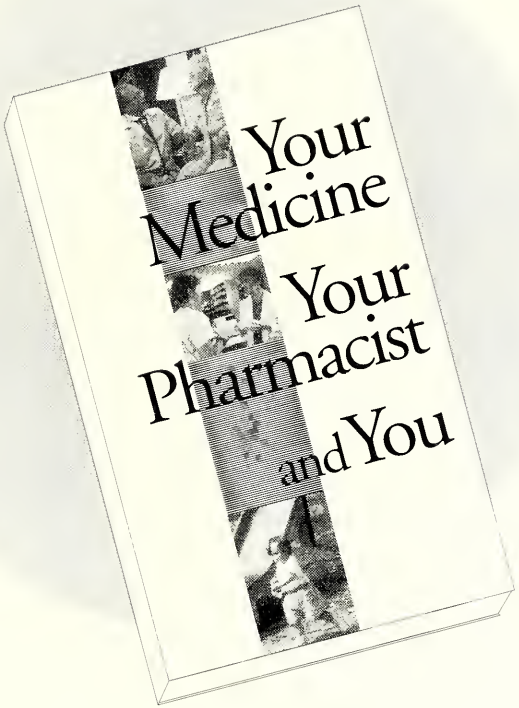

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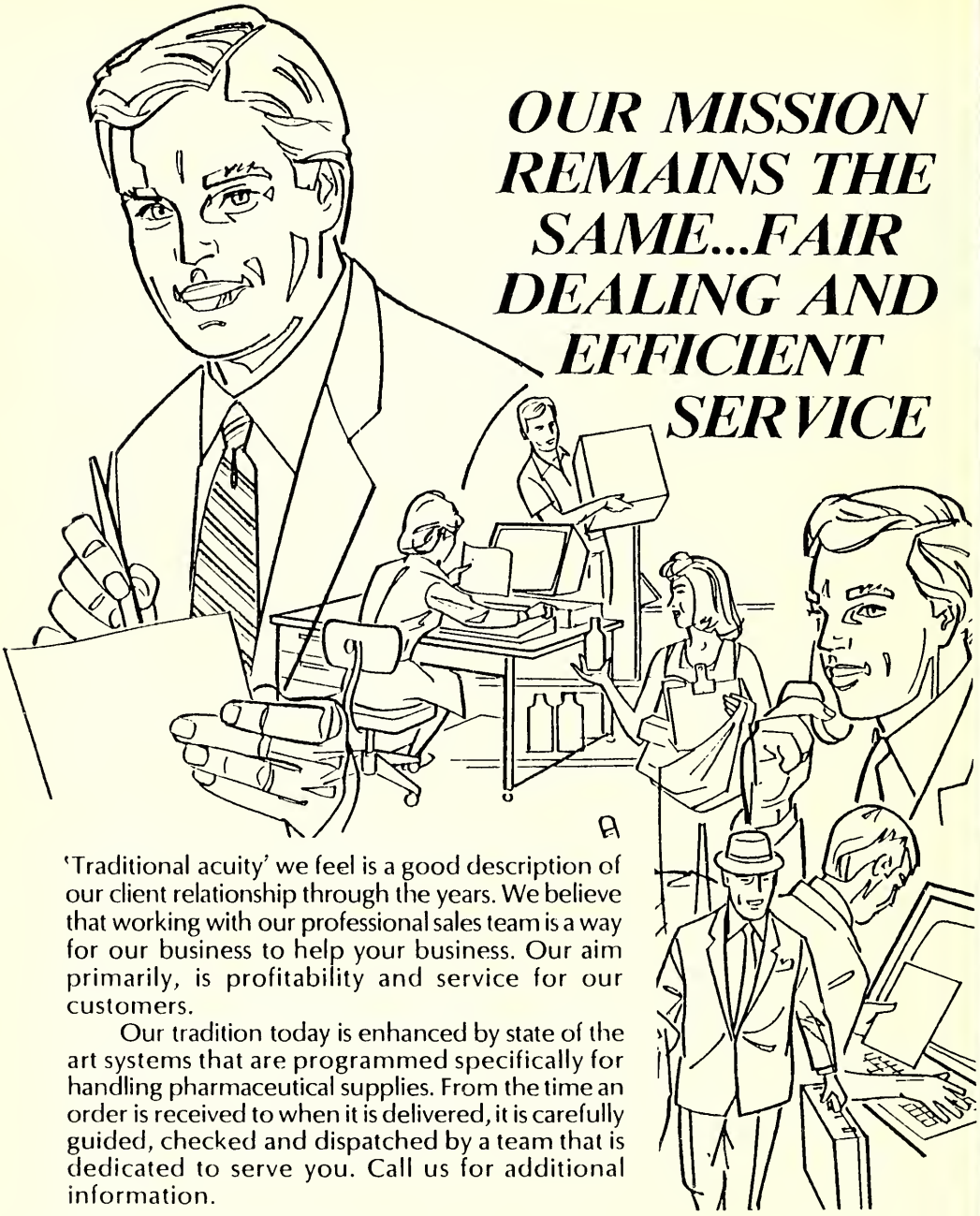

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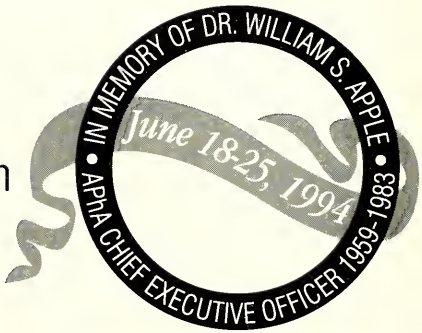

The American Pharmaceutical Association/SmithKline Beecham (APhA/SB) Community Pharmacy Management Program is designed to advance pharmacy practice by improving the management knowledge and skills of community pharmacy practitioners. This seven-day executive level training program is sponsored by APhA and supported through an educational grant from SmithKline Beecham Pharmaceuticals. This year's program will include topics such as:

- Financial and Economic Trends in Pharmacy
- Strategic Planning
- Marketing the Community Pharmacy
- Computerized Data Management Systems
- Pricing/Reimbursement Policies
- Communicating with Patients
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- Identifying Niche Markets
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PRESIDENT'S PAGE

"TOO LEGIT TO QUIT"

W. Robert Bizzell, NCPhA President
presented at the
NCPhA 113th Annual Convention
Wednesday, May 26, 1993

This is going to be a busy year. Now is a critical time in our profession. We're at a crossroads.

We've all heard these buzz words before about our profession, but they have never been more true than now. I was talking with a pharmacist the other night who has been practicing our profession for about 40 years, and he said he has never seen a time when there were so many crucial issues facing our profession, and so many attempts by others to control the way we practice our profession.

Some of my predecessors had theme songs for their administrations. Frank Burton's was "My Way," Betty Dennis' was "The Times They Are A'Changin." Mine is an old standard that, I'm sure, is a favorite of all of you. It was inspired by my two daughters, and is by MC Hammer and called "Too Legit to Quit."

Our profession is the most respected in the eyes of the public, yet is the most maligned in the eyes of those paying for health care coverage. We have, in the past, held our hats in our hands and accepted what was offered. But this year, with increasing regulation and decreasing reimbursement, we hit our limit.

With the formation of the pro-active Retail Pharmacy Group and the successes of Senate Bill 885 and House Bill 862, we have shown that our profession and fellow professionals **are** legitimate and will not sit back and take what is handed them, but will work positively and aggressively for change that will benefit the entire profession.

It is critical that we be active not only in guarding the way we practice, our professional gratification, and our financial well-being, but we must also push our profession in the direction that cognitive services will be recognized and properly compensated.

A lot of emphasis during the past year and in the coming year is being placed on retail pharmacy. That is not to say that the other aspects of our profession are unimportant, but the retail setting has more need for immediate attention. If we do not guard the well- being of the corner drug store, our entire profession is in jeopardy. I promise you that I will be sensitive to the concerns of hospital pharmacy, consultant pharmacy, academia, women in pharmacy, minorities in pharmacy, and any practice settings that have special needs and situations. After all, I am not a retail pharmacist, I am a pharmacist who happens to practice in a retail setting.

One of our major avenues for action in our association is through the committee system. Keeping this in mind, I have already appointed the committee chairmen for the 1993-94 year.

They are: Lori Setzer, Resolutions; Joe Whitehead, Public and Professional Relations; Bill and Hazel Post, Public Health; Joe Johnson, Consolidated Student Loan Fund; June McDermott, Continuing Education; Randy Ball, Third Party; Don Peterson, Employer/Employee Relations; Henry Smith, Finance; Steve Caiola, Constitution and Bylaws; Sara Cobb, Ethics, Grievance and Practice; Whit Moose, National Legislation; Gary Glisson, Retail Community Pharmacy; Joey Edwards, Nominations; Kevin Almond, Membership Development; Mike James, State Legislation; and a new committee that was created by a need discovered at this convention, Jane Thompson will chair the Long Term Care Committee. The general membership is encouraged to sign up for one of these committees, if they have not already done so, and be a part of this exciting and changing time in our professional lives.

All of these were my first choice to head up their respective committees, so I am particularly proud of their acceptance to do their assigned work. They will shortly receive their committee charge and have their first meeting in the next few months to plot their course of action for the year.

I would like to thank some of my fellow pharmacists who have guided and advised me in my professional development. Lee Werley, whose friendship and open door policy kept me focused in pharmacy school; Milton Whaley, who gave me insight into how to operate a viable pharmacy; Shelton Boyd, who gave me my first internship position; and John Hood, who shows me on a daily basis how important a pharmacist can be, not only to his profession but to his community. And others such as Al Mebane, Teamie West, Ralph Ashworth, Frank Burton, Betty Dennis, Henry Smith and Joey Edwards whose guidance, friendship, and confidence has brought me here, hopefully to be one of your best presidents.

I would like to recognize those sitting at my table—Mr. and Mrs. Evan Setzer. Evan has always been a good sounding board for me in discussions on professional matters. And my sister-in-law, who is also a pharmacist, Mary Setzer Maness. My parents, Beryl and Bill Bizzell, who instilled in me at a very young age Christian values and a positive work ethic and tried to guide me down the right paths. My daughters, the apples of my eye, Beth and Maggie, whom I love so dearly. And my wife, Suzanne, who keeps things running smoothly in the family and allows me to do things such as this. I credit her with what success I have, and my biggest fault is that I have not shown her enough what she means to me.

I want to thank the membership for the trust they have put in me to be their association president during such a critical period. I will do my best not to betray that trust. I welcome any input from my fellow pharmacists. Please do not hesitate to contact me if you have a particular concern.

The fat lady has not sung. To paraphrase Mark Twain, the news of our profession's death is greatly exaggerated. It's anemic, but we have a team of enthusiastic, future-minded fellow pharmacists who will give it that needed shot of B-12.

Once again, thank you, and let's have the most progressive year our profession has seen.

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CONTRAINDICATIONS:
(1) ventricular fibrillation, (2) an untoward effect requiring discontinuation of other digitalis preparations, and (3) a hypersensitivity or allergy to digoxin.

WARNINGS: The use of digoxin for the treatment of obesity is dangerous since it may cause potentially fatal arrhythmias. Anorexia, nausea, vomiting and arrhythmias may be indications of digitalis toxicity. If so, digoxin should be temporarily withheld when possible. Patients with renal insufficiency require smaller than usual maintenance doses of digoxin. Heart failure accompanying acute glomerulonephritis requires extreme care in digitalization and careful monitoring. Relatively low loading and maintenance doses and concomitant use of antihypertensive drugs may be necessary. Digoxin should be discontinued as soon as possible in this setting. Patients with severe carditis are especially sensitive to digoxin-induced rhythm disturbances. Newborn infants display considerable variability in their tolerance to digoxin with premature and immature infants being particularly sensitive; reduce and individualize dosage accordingly. Note: Digoxin is an important cause of accidental poisoning in children.

PRECAUTIONS: Digoxin toxicity develops more frequently and lasts longer in patients with renal impairment because of the decreased excretion of digoxin. Normal potassium and magnesium levels should be maintained in patients treated with digoxin. Calcium, particularly when administered rapidly by the intravenous route, may produce serious arrhythmias in digitalized patients. Hypercalcemia predisposes the patient to digitalis toxicity, whereas hypocalcemia can cause digoxin to become ineffective. Patients with acute myocardial infarction or severe pulmonary disease may be unusually sensitive to digoxin-induced rhythm disturbances. Atrial arrhythmias associated with hypermetabolic states are particularly resistant to digoxin treatment. Large doses of digoxin are not recommended as the only treatment of these arrhythmias; if large doses are required, be careful to avoid toxicity. In hypothyroidism, digoxin requirements are reduced. Reduction of digoxin dosage may be desirable before electrical cardioversion to avoid induction of ventricular arrhythmias. If digitalis toxicity is suspected, elective cardioversion should be delayed. Patients with incomplete AV blocks may progress to advanced or complete heart block when given digoxin, especially in patients with Stokes-Adams attacks. Digoxin may worsen sinus bradycardia or sinoatrial block in patients with sinus node disease. Digoxin may cause rapid ventricular rates and ventricular fibrillation in patients with Wolff-Parkinson-White Syndrome and atrial fibrillation. Because it may worsen the outflow obstruction in patients with idiopathic hypertrophic subaortic stenosis (IHSS), digoxin should only be used in severe cardiac failure in this setting. Patients with chronic constrictive pericarditis may fail to respond to digoxin. Slowing of the heart rate by digoxin in some patients may further decrease cardiac output. Patients with heart failure from amyloid heart disease or constrictive cardiomyopathies respond poorly to digoxin. (See DRUG INTERACTIONS section.)

Laboratory Tests Serum electrolytes and renal function should be assessed periodically.

Drug Interactions Potassium-depleting *corticosteroids* and *diuretics* may be major contributing factors to digitalis toxicity. *Calcium*, particularly if administered rapidly by the intravenous route, may produce serious arrhythmias in digitalized patients. *Quinidine*, *verapamil*, *amiodarone*, and *propafenone* cause a rise in serum digoxin concentration, with the implication that digitalis intoxication may result. Certain *antibiotics* increase digoxin absorption in patients who inactivate digoxin by bacterial metabolism in the lower intestine, so that digitalis intoxication may result. *Propantheline* and *diphenoxylate* by decreasing gut motility may increase digoxin absorption. *Antacids, kaolin-pectin, sulfasalazine, neomycin, cholestyramine*, certain *anticancer drugs* and *metoclopramide* may reduce intestinal digoxin absorption, resulting in unexpectedly low serum concentrations. There have been inconsistent reports regarding the effects of other drugs on the serum digoxin concentration. *Thyroid* administration to a digitalized, hypothyroid patient may increase the dose requirement of digoxin. Concomitant use of digoxin and *sympathomimetics* increases the risk of cardiac arrhythmias because both enhance ectopic pacemaker activity. *Succinylcholine* may cause a sudden extrusion of potassium from muscle cells, and may thereby cause arrhythmias in digitalized patients. Although β adrenergic blockers or calcium channel blockers and digoxin may be useful in combination to control atrial fibrillation, their additive effects on AV node conduction can result in complete heart block.

Carcinogenesis No long-term animal studies have been performed to evaluate carcinogenic potential.

Pregnancy: Pregnancy Category C. Animal reproduction studies have not been conducted with digoxin. Digoxin should only be given to a pregnant woman if clearly needed.

Nursing Mothers Studies have shown that the digoxin concentration in the mother's milk is far below the usual infant maintenance dose and should have no pharmacologic effect upon the infant. Nevertheless, caution should be exercised when digoxin is administered to a nursing woman.

ADVERSE REACTIONS The overall incidence of adverse reactions has been reported as 5 to 20%, with 15 to 20% (1 to 4% of all patients) of them being considered serious. Evidence suggests that the incidence of toxicity has decreased since the introduction of the serum digoxin assay and improved standardization of digoxin tablets. Cardiac toxicity accounts for about one-half, gastrointestinal disturbances for about one-fourth, and CNS and other toxicity for about one-fourth of these adverse reactions.

Adults: ***Cardiac*—**unifocal or multiform VPCs, ventricular tachycardia, AV dissociation, accelerated junctional (nodal) rhythm and atrial tachycardia with block, excessive slowing of the pulse, AV block (Wenckebach) of increasing degree may proceed to complete heart block.

Gastrointestinal: anorexia, nausea, vomiting, occasionally diarrhea, and very rarely hemorrhagic necrosis of the intestines and abdominal pain.

CNS: visual disturbances, headache, weakness, dizziness, apathy and psychosis.

Other gynecomastia.

Infants and Children: Anorexia, nausea, vomiting, diarrhea and CNS disturbances may be present but are rare as initial symptoms in infants. Cardiac arrhythmias are more reliable signs of toxicity. Digoxin in children may produce any arrhythmia. Most common are conduction disturbances or SVTs, such as atrial tachycardia with or without block, and junctional (nodal) tachycardia. Ventricular arrhythmias are less common. Sinus bradycardia may also be a sign of impending digoxin toxicity, especially in infants, even in the absence of first degree heart block.

September 1991 542253

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References: 1. Packer M, Gheorghiade M, Young JB, et al. Randomized, double-blind, placebo-controlled, withdrowal study of digoxin in patients with chronic heart failure treated with converting-enzyme inhibitors. *J Am Coll Cardiol.* 1992;19:260A Abstract. **2.** Young JB, Uretsky BF, Shahidi FE, Yellen LG, Harrison MC, Jolly MK. Multicenter, double-blind, placebo-controlled randomized withdrowal trial of the efficacy and safety of digoxin in patients with mild to moderate chronic heart failure not treated with converting enzyme inhibitors. *J Am Coll Cardiol.* 1992;19:259A. Abstract.

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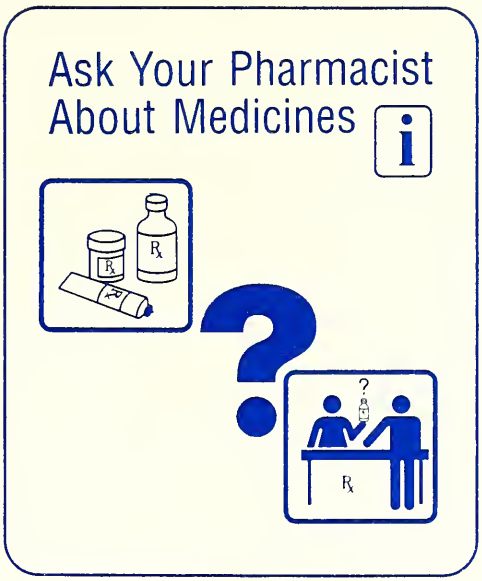
ILLITERACY: A PRACTITIONER'S HIDDEN CHALLENGE

by Patricia L. Worthen, Peter Kwansik, R.Ph., and Dennis B. Worthen, Ph.D.

An estimated 20% of the American population can't read this sentence. This functional illiteracy means there are drivers who recognize traffic signs by shape but are unable to read the words. There are factory workers unable to read CAUTION signs on machinery. There are homemakers of all ages unable to read grocery ads to prepare shopping lists, to read nutrition labels on food, to read recipes. And there are patients who are unable to read the labels on their prescription. Illiteracy has a significant impact on work, daily activities, and health care. It is a growing and hidden problem for pharmacists as they provide care to their patients.



Chenango County, located in rural central New York State, has a total population of approximately 50,000, with the largest city just under 9,000. Residents like to believe that society's problems are elsewhere, but the local presence of illiteracy can't be denied. Literacy Volunteers of America: Chenango County (LVA:CC) is a volunteer organization that provides tutoring for people who need to learn or increase reading and writing skills. In 1990, LVA:CC served approximately 35 students; in 1992, the number increased to 90. It's usually a crisis that brings a student to LVA. Nonreaders frequently have a support person to "interpret" for them. If that person should be removed for some reason—death of a spouse, incapacity of a friend, relocation of a grown child—nonreaders are forced to admit their situation to those who can help.

Getting Help

Adult nonreaders have spent their lives hiding their inability from themselves and others. It is very difficult for them to admit their problem and come to an organization such as LVA:CC to ask for help. This is why the illiterate population is underserved. LVA:CC considered these questions: If those in need won't come to us, how can we go to them?

An interdisciplinary team was form-ed to address the issue of illiteracy and medication usage. Individuals from LVA:-CC, a physician, and a pharmacist were involved.

The team focused their efforts on USP pictograms. They thought visual aids would be a more appropriate way to tell low-literate patients about their medications than trying to get them to remember oral instructions. And they envisioned a local media blitz to let the public know which pharmacies in the county were "pictogram" stores. This would enable low-literate patients to know where they could receive special help with their medications. The team also hoped that as a media blitz proceeded, all the pharmacies in the county would become "pictogram" stores, so that a

greater number of illiterate people would benefit. However, a problem soon emerged. Common dosage situations are not depicted by currently available pictograms. For example, there is a pictogram for taking medicine four times a day, but not for once, twice or three times a day. USP was asked when more pictograms might be produced. They responded: "When the demand calls for it." Full-line wholesalers were asked if they would carry new ones when produced, but they responded negatively "because there is no demand for what is currently available." Faced with this catch-22 situation, the team pulled back from the "pictogram store" concept to rethink how to address the impact of illiteracy on pharmacy practice.

Since the approach was interdisciplinary, the team decided to ask pharmacists for their input. A short coffee hour before work was chosen as the time to gather all the pharmacists from throughout the county. The coffee hour discussion began with a pharmacist voicing the opinion that he didn't have any low-literate patients. Other practitioners said they shared the same belief until a 10-minute video developed by the North Carolina Pharmaceutical Association called "Counseling the Low-Literate Patient" raised their awareness. The pharmacists then began to recall signs of possible illiteracy among their patients. Upon further reflection, the first pharmacist did remember a possibly low-literate client or two. The discussion epitomized what is happening in pharmacies across the country: Low-literate patients in need of special help go unnoticed until after pharmacists learn to "read" their patients' behavior.

Editor's Note: If you would like to receive a free copy of the poster aimed at helping pharmacists reach illiterate patients *(shown on the previous page)* write to: NCPhA, P.O. 151, Chapel Hill, NC 27514.

Adults might be illiterate if they:

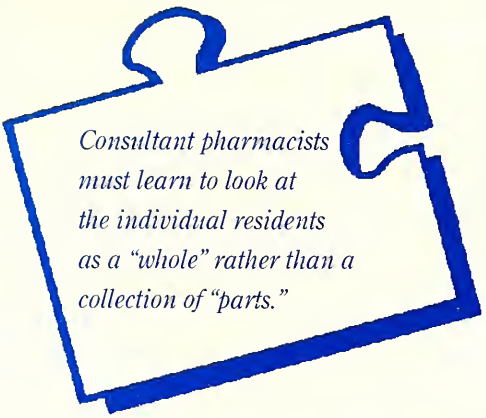
- Ask you to fill out forms for them, or make lots of mistakes when they fill out forms
- Bring a friend to help them fill out forms.
- Take forms home to fill out.
- Make excuses for not reading printed material, such as "I forgot my glasses" or "I have a headache" or "I don't have time."
- Ask you to fill in their check for similar reasons.
- Repeatedly ask you to explain what they have just read.
- "Read" without their eyes shifting from right to left.
- Fail to respond to mailed information such as notices and bills.
- Ask you to call rather than mail information to them.
- Consistently miss appointments.
- Turn down opportunities that require reading and/or writing.

(Adapted from a list compiled by Margaret Monsour, Director of the Bell Atlantic/American Library Association Family Literacy Project)

THE CONSULTANT PHARMACIST: A PIECE OF THE PUZZLE IN TEAM-ORIENTED PATIENT CARE

Lourdes Maria Heuermann, Pharm.D., R.P., FASCP
Clinical Consultant Pharmacist

Consultant pharmacists, once relegated to reviewing residents' charts in back rooms or offices, are today out on the floors interacting with nursing home residents and primary caregivers. Those of us involved in long-term care long enough to see the evolution of pharmaceutical services can easily recognize the positive effects that today's hands-on pharmacists are having on patient care. Pharmacists have grown to realize that people are very different in real life than they appear on a resident chart; they have come to appreciate that diseases and the effects medications have on them are rarely "textbook" but rather very much individualized.



Consultant pharmacists must learn to look at the individual residents as a "whole" rather than a collection of "parts." Just as a completed puzzle conveys a message that is more than the sum of its parts, the resident must be considered holistically rather than as several unrelated organ systems.

As an "evolving" consultant pharmacist, I am a firm believer in the teamcare approach to overall quality patient care. Each member of the health care team is responsible for his or her unique area of expertise—or piece of the puzzle—but it is not until all the pieces are placed together that the overall picture can be seen and interpreted accurately. If one of the pieces is missing, then the picture may be interpreted incorrectly; the same thing happens in long-term care.

As pharmaceutical care specialists—whether vendors, consultants, or both—pharmacists do their parts to enhance the quality of life of nursing home residents. Yet how can the pharmacist fully realize that the resident's quality of life is enhanced without observing or interviewing the resident, discussing the case with nursing staff and physicians, and personally noting the effects that certain interventions have on the patient? In talking with the physical therapist, the pharmacist can gather information about how an antipsychotic agent has affected a resident's gait and ability to ambulate. The occupational therapist can convey to the pharmacist how medications have changed the resident's ability to perform simple tasks and to eat. Another excellent tool for the consultant pharmacist is the social services staff, to whom the residents' and families' expectations of care are well-known.

Just because pharmacists are taught that certain medications are the drugs of choice for specific disease states does not mean that those are always the correct therapeutic choices. Residents with differing psycho-social expectations or multiple disease states require an individualized drug regimen. When adverse drug effects are unacceptable to a patient, the pharmacist must recognize this fact and alter recommendations appropriately.

Just as the pharmacist must be present for the puzzle to be complete, the other members of the health care team also must fill in their places in the picture. An effective consultant

pharmacists is not only an excellent communicator and teacher but perhaps, more importantly, a good listener and learner. There is no end to the knowledge that can be acquired from nurses, administrators, social service workers, care staff members, and the other health care practitioners who work in the nursing home. Pharmacists must learn to respect and use the expertise of other professionals available in the long-term care setting.

As a consultant to 10 facilities with 45-100 beds each, I have personally observed the symbiotic effects of a committee approach to the problem of chemical restraints. The nurses, administrative staff, and social workers are more aware of the medications and their expected beneficial and detrimental effects, and I gain tremendously in my knowledge of the individual residents and what is required of various providers of care to affect positively the residents' quality of life.

After looking at all these facets, pharmacists are better educated and informed when they provide recommendations for enhancements to drug therapy. Pharmacists are then better able to distinguish when medications are appropriate—and when a nonphar-macologic alternative is better. As part of the health care team, the pharmacist is likewise better equipped to tailor medication therapy to the behaviors and desires of the resident—and to recognize improvements from month to month.

Our top priority must be how we as pharmacists can improve quality of life for nursing home residents. To achieve this goal we must use the available tools to their fullest potential. We must convey to caregivers, residents, and families what they can realistically expect from pharmacotherapy and what adverse effects to monitor for. As part of the health care team puzzle, we as pharmacists must be able to prove from month to month that pharmacotherapy is enhancing each resident's quality of life and improving those target symptoms and behaviors for which the medications have been prescribed. By doing so, the ultimate goal of pharmaceutical care—to provide drug therapy for the purpose of achieving definite outcomes that improve a patient's quality of life[1]—can be accomplished.

Reference

1. Hepler CD, Strand LM. Opportunities and responsibilities in pharmaceutical care. *Am J Pharm Educ* 1989; 53(supp): 7S-15S.

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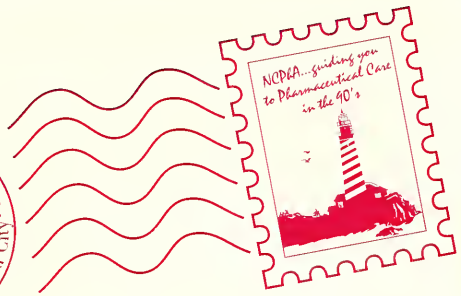
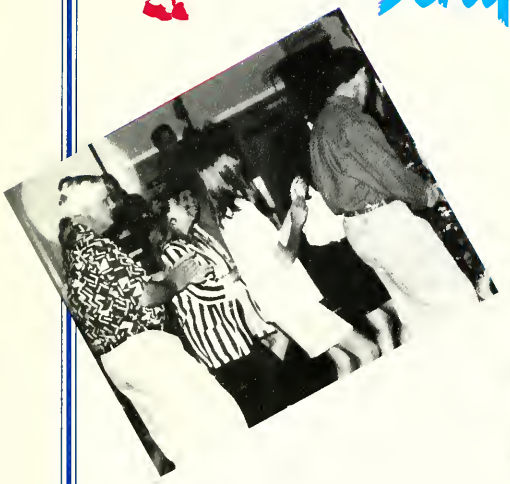


1993 Convention Scrapbook



We've Done it Again!

Thanks to the participation of over 400 pharmacists, family members, students and industry representatives, the 113th Annual Convention of the NCPhA was a huge success. The three-day event held at the Sheraton Atlantic Beach Hotel offered something for everyone. Attendees enjoyed high quality continuing education programs, golf, tennis, dancing, and a poolside clambake. Continuing education programs on Time Management and Pharmaceutical Care brought rave reviews and our 1994 convention agenda promises to be even better.

Start planning now for the 114th Annual NCPhA Convention to be held May 22-25, 1994 at the beautiful oceanfront Myrtle Beach Hilton in South Carolina. A sneak preview of the upcoming meeting includes over 10 hours of continuing education focusing on topics such as clinical updates, young pharmacists' leadership training workshop, consultant pharmacists' workshop and more! Special social activities are being planned along with an exhibit program you'll not want to miss. Mark your calendar now for what promises to be a spectacular meeting and vacation. Bring the family, there will be fun for everyone!

Special Thanks to our Convention Contributors and Sponsors

The following companies contributed greatly to the success of our 1993 Convention by providing prizes, educational grants, social activities and receptions. Please express your gratitude to the representatives from each of these companies and organizations.

Bergen Brunswig Drug Co.
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Sam Stuart, CLU
Schering Laboratories
Scott Drug Company
Searle
SmithKline Beecham Pharmaceuticals
Traveling Members' Auxiliary
The Upjohn Company
W.H. King Drug
Zeneca Pharmaceuticals Group

Special thanks to Dr. Dan Teat, Director of Continuing Education at Campbell University and to Campbell University School of Pharmacy for providing the ACPE credit for the 113th Annual Convention.

GET INVOLVED!

The President's Outgoing Address

presented at the NCPhA 113th Annual Convention
Monday, May 24, 1993

Today it is my honor to thank you for allowing me to serve as your president for the past year. I want to thank each one of you who voted for me and each one of you who worked with me this past year. The person whom I have to thank the most is Tracey. Without her and her patience, it would be impossible to spend the time necessary to be in Chapel Hill, Raleigh, Pinehurst, and the many other places we have been this year. I don't believe anyone can serve as president of the association without the help that starts at home.

Little does one realize how much time and travel is required in this office. I would just like to list some of the travel that I've done in the past year:

1. trips to Raleigh to meet and discuss the DUR Board;
2. trips to sessions at the legislative building;
3. a trip to New Orleans for a meeting of the Southeastern Pharmacy Officers;
4. a trip to Seattle for the NARD convention;
5. trips to Campbell and UNC to represent the association at various functions;
6. a trip to Dallas for the APhA convention;
7. numerous trips to Chapel Hill for Executive Committee and other committee meetings;
8. a trip to the legislative building for maybe one of our best projects this year, "Pharmacy Day in the Legislature;" and many other trips that could have been attended but schedules would not allow.

From the time I graduated from pharmacy school, I have always heard how much pharmacy and the practice of pharmacy is changing. I don't believe this statement has ever been more true than it is today. Of all the problems that have faced pharmacy, the third party programs of today may be the biggest. It is because of these problems that we see much

Henry L. Smith, 1992-93 NCPhA President

involvement by individuals in our profession and hopefully an increased involvement in the Association. No longer can we sit back and let someone else do the work.

Last year, while serving as president-elect, the greatest complaint that I heard was that the Association had forgotten the retail pharmacist. Even though I did not feel this way, I made a pledge to try and get retail pharmacists to feel a part of the Association and to become more active. Our first step was a meeting held last year in Pinehurst, with all retail pharmacists invited to attend. About 35 retail pharmacists attended and discussed points of interest. Let me stress that this meeting was for *all* retail pharmacists, and our work was for *all* retail pharmacists. The next step was to appoint interested pharmacists to the Retail Pharmacy Committee to work on problems and legislative issues of importance for the good of pharmacy in North Carolina. The committee met several times in the past year, both alone and in conjunction with the Legislative Committee, to propose needed legislation for this session. A third step taken was one of our best received and maybe most effective——the brain

child of Al Mebane—"Pharmacy Day in the Legislature." On this day, we met for breakfast with Speaker of the House Dan Blue as our featured guest, after which four other representatives gave a brief presentation followed by a word from our lobbyist. The pharmacists then visited the legislative building to call on their representatives. We reconvened at the Radisson Hotel at 2:00 to discuss the day's activity. All who attended believed this to be most effective and said it should be continued on a regular basis.

If asked to serve on a committee, serve. If you do not represent your profession, who will?

Through meetings of the Legislative Committee, with input from the Retail Pharmacy Committee, the Executive Committee endorsed two major pieces of legislation targeted for this session:

1. Equal access; and
2. Registration for mail order

At the present time, both bills are proceeding as we had hoped. When I see the activity of the pharmacists in calling their representatives, it reminds me of the action I saw pharmacists take in the early '80s when I was serving as secretary-treasurer of PharmPAC. Believe me, if you hear the words "grass-root effort," this is nothing new, but we are seeing pharmacists involved in the legislative process. You may still be called on to contact your legislator on the above mentioned bills, and I hope you will respond accordingly.

The Association can and does hire a lobbyist, but we must also do our part. We must continue to contribute to employ the lobbyist, but we must contribute to North Carolina PharmPAC in order to make contributions to candidates who understand the needs of pharmacy. I urge each of you to contribute to this most important organization and give your full support today.

Let me assure you that even though most of what I have talked about so far today may make you think the year was devoted to only one aspect of pharmacy, this is not so. The Association represents all aspects of the profession. It is important for all fields of pharmacy practice to become involved in the legislative process and to contribute to North Carolina PharmPAC. Remember, we are the one association for all pharmacists in North Carolina. In the past year, the North Carolina Society of Hospital Pharmacists (NCSHP) has moved into the remodeled basement at the Institute of Pharmacy. This will help to continue the relationship between the two organizations.

One other important occurrence during the past year was a two-day meeting of the Strategic Planning Committee, appointed by past-president Betty Dennis. As a result of this meeting, we have appointed a task force to review the NCPhA Constitution and By-Laws and to make a full report at next year's convention. More about this is in the report of the Constitution and By-Laws Committee. Another important concern to surface from this meeting is development of a fund in order to hire an additional staff pharmacist to help at the Association with professional affairs. A committee has been appointed to develop a job description and work with the Finance Committee to fund this position. This is one of the top recommendations from the Strategic Planning Committee.

I think if there is one thing that I would want each of us to gain from what I say today or have done this past year, it is "*Get Involved.*" If asked to run for an office in the Association, run. If asked to serve on a committee, serve. If *you* do not represent your profession, who will? Support Al and your Association with your time and financial support. I also urge you to consider running for public office—at this time, we have no pharmacist in either house for the first time in many years, since 1957. Let's all work together for the best profession and not for our individual gains.

Again, I thank you for your support and for this opportunity to serve you. Thank you, Al, for all that you do for us; thanks to the staff for all of their hard work. And to you, Rob, good luck next year, and I'll be glad to help you all I can.

Thanks For Your Participation 1993 Convention Exhibitors

The exhibit program is always a highlight of the NCPhA convention program and this year's program proved to be no exception. Over 40 companies and organizations displayed their wares and services for attendees. The Apron Luncheon, back by popular demand, has become a most favored activity of the exhibit program. Special thanks to Marion Merrell Dow for sponsoring the luncheon and providing the souvenir aprons. Special prize drawings were held to maintain the attendance in the exhibit hall. The Grand Prize, one free registration for the 1994 Convention in Myrtle Beach, was won by Tom Thutt of Kinston.

Be sure to show your appreciation to the exhibitors for their support and participation. Remember, exhibitor's fees and support help reduce the total cost of the Convention.

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United Research Laboratories
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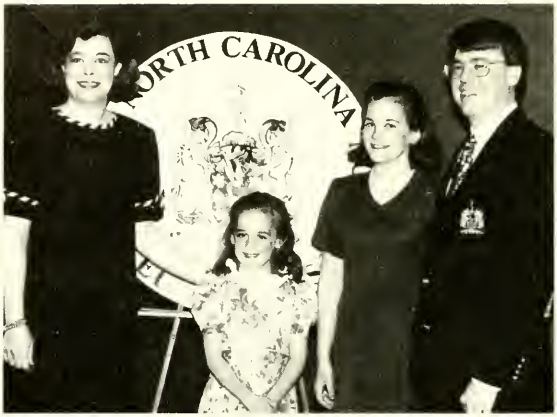
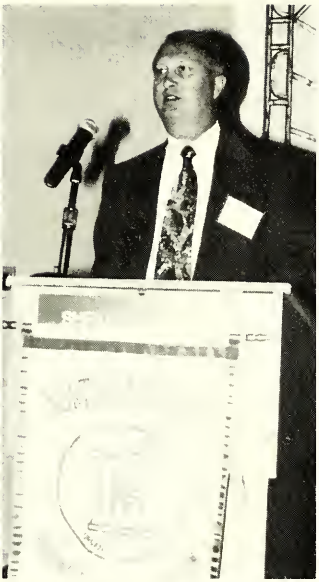


Convention Pictorial



In Recognition of Excellence

E.R. Squibb Past President's Award
Henry L. Smith, Farmville

Geigy Pharmacist's Mate Award
Tracey F. Smith, Farmville

McKesson Incoming President's Award
W. Robert Bizzell, Kinston

NARD Leadership Award
W. Robert Bizzell, Kinston

1993 Pharmacist-of-the-Year
David D. Claytor, Greensboro

A.H. Robins Bowl of Hygeia Award
John A. Mitchener Jr., Edenton

Peggy Yarborough, Sims, recipient of the Dupont Innovative Pharmacy Practice Award. Pictured with NCPhA Executive Director Al Mebane.

photos by Qualex

Members of the Executive Committee, *from left to right*, Betty Dennis *(at the podium)*; Keith Elmore; Pam Joyner; Past President, Henry Smith; John Mitchener, Tom Thutt, Joey Edwards, President, Rob Bizzell. Not pictured: Mickey Watts, Rebecca Chater.

Roy Hill of Charlotte, *left*, was presented the Distinguished Young Pharmacist Award by Paul Harmina, Senior Account Executive for Marion Merrell Dow.

Johnny Hogg of Pinetops, recipient of the Don Blanton Award.

photos by Qualex

Inductees to the "50-Plus" Club: *Back row, left to right,* **Banks Kerr** and wife, Dot; **John Henley** and wife, Becky; and **John Carswell.** *Front row, left to right,* Nancy and **Stroud Brewer Jr.;** Barbara and **Paul Tart;** Billy and **Marsha Brewer**; and **Jefferson Whitehead**.
***Bold depicts award recipients**

50-plus Inductees not pictured: Harry Allen Jr., Samuel Beavans, William Howell Jr., Troy Johnson, Louis Shields, John Terrell, Jr., and Frank Pickard.

Report of the Nominating Committee

The Nominating Committee of the North Carolina Pharmaceutical Association do hereby present the following slate of officers in accordance with the Constitution and Bylaws. Each person nominated has agreed to serve if elected. This slate, along with any nominations from the floor of the Convention, will be submitted to the membership by mail ballot. Each nomination from the floor of the Convention must be accompanied by written biographical information.

Those officers elected by plurality of votes received will be installed at the 1994 Annual Convention to serve the 1994-95 Association year or as their term of office requires.

The candidates nominated are:

Candidates for President Elect
W. Keith Elmore, *Wilmington*
Mickey Watts, *Concord*

For Executive Committee Member
(two persons to be elected to three-year terms)
David Moody, *Durham*
Mike James, *Raleigh*
Randy Ball, *Wake Forest*
Michael Overman, *Asheville*
Bob Lewis, *Charlotte*
Roy Hill, *Charlotte*

Members of the committee: Chairman W. Robert Bizzell, Kinston; LaRue Dedrick, Durham; Jonathan A. Hill, Charlotte; Lazelle A. Marks, Laurinburg; John A. Mitchener, Edenton; Thomas R. Thutt, Kinston; Joy Southerland, Greensboro.

Editorial Note: Biographical sketches of these candidates will appear in a future issue of The Journal. At the same time, ballots will be circulated to the membership by mail.

Report of the Resolutions Committee

(Resolutions Acted Upon at the 1993 Convention)

RESOLUTION #1

For an expanded Committee for 1993-94 to study recommendations of the Association's Strategic Planning Task Force and the Executive Committee:

Whereas the Association's mission or purpose and objectives as stated in the Constitution have not been amended since originally written,

And whereas the Strategic Planning Task Force and the Executive Committee have recommended significant study and revision of the Constitution and Bylaws to meet contemporary membership needs;

And whereas recent Presidents have not appointed chairmen or members to selected standing committees because their purposes do not meet current needs,

And whereas a new Mission Statement for North Carolina Pharmacy has been endorsed by the Association;

And whereas the Constitution and Bylaws have not been extensively studied and amended to meet ongoing membership needs since 1985;

Be it resolved that the President appoint a special, expanded Constitution and Bylaws Committee, representing a broad base of the membership, for 1993-94 to meet at least quarterly for the purpose of extensively studying these documents in light of the membership's contemporary needs;

And be it further resolved that this Committee submit to the Executive Committee and the membership (through the *Carolina Journal of Pharmacy)* a summary of their deliberations and recommendations after each meeting, with a comprehensive listing of recommended amendments presented one month prior to the 1994 Convention; **And be it further resolved** that this committee submit to the 1994 Convention a comprehensive list of recommended amendments to the Con-

Resolutions continued on page 26

1993-94 OFFICERS OF THE TRAVELING MEMBERS' AUXILIARY

PRESIDENT
Raymond W. James, Raleigh
Qualex

1st VICE PRESIDENT
Charlie W. Black, Forest, VA
Alco Health Services

2nd VICE PRESIDENT
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Geneva Generic Pharmaceuticals

SECRETARY-TREASURER
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BOARD OF GOVERNORS
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Junior Little, Statesville, Owens Brockway
Dick Hoffman, Asheville, Dr. T.C. Smith Co.
Rudy Snow, Granite Falls, Medi-Plex Pharm., Inc.
Tom Terry III, Charlotte, Durr Drug Co.

Raymond James, 1993-94 TMA President, *left*, presents outgoing TMA President Bill O'Quinn with the president's plaque.

TMA Officers present a check for $2,000 to NCPhA Executive Director Al Mebane for the TMA Foundation Loan Fund. *Left to right,* Raymond James, Bill Andrews, Al Mebane, Rudy Snow.

WA President Carolyn O'Quinn displays a silver tray presented to her by the WA Board in recognition of her term as president.

WA Walk-A-Thon participants, *back row, from left,* Bud and Shirley O'Neal, Dianne Moody, *front row, from left,* Lamar Morse, Erie Cocolas, Carolyn O'Quinn, Jean Morse, Peggy Eckel, Betsy Mebane, Daphne Ashworth.

1993-94 WA Officers: *from left,* Carolyn O'Quinn, Advisor; Daphne Ashworth, Corresponding Secretary; Yvonne Brown, Parliamentarian; Georgia Lewis, 1st Vice President; Tracey Smith, President; Peggy Jackson, 2nd Vice President; Betsy Mebane, Coordinator.

Jean Morse, *right,* presents Erie Cocolas with a medal for raising the most money for the Walk-A-Thon.

From the left, Mary Lou Worley, Evelyn Clark, Frances Jones, Jean Morse, and Betsy Mebane were among the many who participated in the "Mystery Tour."

1993 WOMAN'S AUXILIARY CONVENTION HIGHLIGHTS

by Mrs. Carolyn O'Quinn, 1992-93 President

The 66th Annual Convention of the Woman's Auxiliary of the North Carolina Pharmaceutical Association met May 23-26 at the Atlantic Beach Sheraton on the beautiful Crystal Coast of North Carolina. The beach was beautiful and the weather was wonderful throughout the convention.

Upon our arrival and registration, we received "goody bags" filled with many useful items from Kendall Drug Company. Prior to the Opening Session Banquet, everyone gathered outside for a reception honoring Dean and Mrs. William Campbell and the presidents of the NCPhA, Woman's Auxiliary and TMA. This gave everyone an opportunity to greet friends and to congratulate the award recipients.

The Crystal Coast Chorale presented an outstanding musical program at the banquet. Larry Wamble from Oseola, Arkansas was the keynote speaker for the evening. Mr. Wamble was an entertaining motivational speaker.

The Woman's Auxiliary activities began Monday morning with a Mystery Tour. This was a very interesting and informative tour of historical homes and buildings in Beaufort and it ended with a delicious lunch at The Beaufort House on the waterfront. Jerry White arranged the lovely "pearls of the sea" centerpieces for the tables.

On Monday afternoon, Waldo Clifton and Rosalind Austin of the Carolina Cotillion Club of Raleigh provided a session of shag instruction. A clambake by the pool gave us an opportunity to participate in a real Crystal Coast event. This was a great new taste experience for many of us.

Following the clambake, the Traveling Members Auxiliary sponsored a dance featuring "The Band of Oz." We are grateful to the TMA for this fun-filled evening.

Bright and early Tuesday morning we gathered for the Beach Walk-A-Thon. Many thanks to Shirley O'Neal and Jean Morse for planning this fund raising event and for their hard work in securing prizes for the raffle and selling tickets. The two events raised $1,472 for our Auxiliary projects. A special thanks to Kendall Drug Company for donating T-shirts for Walk-A-Thon participants.

The three Walk-A-Thon medal winners were: First place, Erie Cocolas, Second place, Jerry White and Third place, Daphne Ashworth.

The Annual Business Session and Luncheon were held at the Dunes Country Club. We met in a lovely room with a beautiful view of the ocean. Jewell Oxendine gave the invocation. Jerry White extended a welcome to the convention and to the Crystal Coast. Bestelle Hill presented a touching memorial service for Lillian Hartis, formerly of Winston-Salem, who died during the past year. We want to express our thanks to the wholesalers, pharmacists, companies and individuals who donated the door prizes that were awarded at the end of the business session.

I am very pleased to report that the Vial of Life Service Project continues to receive requests from all over the state for the slide presentation and supplies. Many notes were received throughout the year from students expressing their appreciation for the money they received from the Consolidated Loan Fund. This fund really makes a difference in the lives of students when they are experiencing a financial need.

We are grateful to Betsy Millar, daughter of Lucile Swaringen Rogers, for so generously increasing the scholarship fund established in honor of her mother to $50,000. At Mrs. Millar's request, one scholarship will be awarded each year to a needy, worthy student.

A delicious luncheon was served at the Dunes Country Club. Mary Lou Worley gave the invocation. A fashion show was presented by "The Golden Gull" with six of our Auxiliary members as models. All past presidents were recognized. Neta Whaley installed the officers for 1993-1994. Each officer was presented with a unique corsage representing the duties of her office. The president's gavel then changed hands to our new president, Tracey Smith. We

can look forward to a successful year under her capable leadership. I want to thank each one of you for the beautiful silver tray which was presented to me in recognition of my term as your president.

On Tuesday evening, a cruise on the Carolina Princess provided the transportation for many to the Galley Stack Restaurant for dinner. After dinner, we enjoyed an Ice Cream Sundae Bar at the hotel. This has become a delightful annual event.

Thanks to my Executive Board and to the committee members for doing their jobs so well. I want to express my appreciation to Tracey Smith for providing the food in the Hospitality room. Special thanks to Jerry White for making the arrangements for the auxiliary activities that we all enjoyed so much. Thanks to Betsy and Al Mebane, Erie Cocolas, Terri Little and Michelle Martin for all the work that they do to make each convention a memorable occasion.

I want to thank each of you for the honor of serving as your president for 1992-1993. You are all very special to me.

Resolutions continued from page 22

stitution and Bylaws for review and vote at that time.

Action: *Adopted*

RESOLUTION #2

For a change in the makeup of the Executive Committee and in the number of and term of office for Members-at-Large:

Whereas those who may be nominated for President-Elect must have served on the Association's Executive Committee for at least one year;

And whereas there are only two members (other than the Immediate Past-President) rotating off the Executive Committee each year;

And whereas the Executive Committee has the experienced input of the President for one year after the presidential year (as the Immediate Past-President);

Be it resolved that Article III, Section 2. (1) of the Bylaws be amended as follows:

Executive Committee—The Executive Committee shall consist of the President, ~~Immediate Past-President~~ and the President-Elect each serving a one-year *term,* the *two (2) Immediate Past-Presidents, each serving a two year term* and six (6) members-at-large, ~~two~~ *three* of whom are elected annually, each serving a ~~three~~ *two*-year term, and the Executive Director.

And be it further resolved that Article I, Sections 1 and 2 of the Bylaws be amended as follows:

Section 1. A Nominating Committee of seven members shall be annually chosen by the President, and charged with the duty of selecting candidates for the offices of President-Elect, ~~two~~ *three* members-at-large of the Executive Committee of the North Carolina Pharmaceutical Association and any vacated unexpired terms of members-at-large. Nominees for President-Elect must have served at least one year on the Executive Committee.

Section 2. At the last session of each annual meeting, the Nominating Committee shall submit for approval a slate of two or more candidates together with biographical sketches for the office of President Elect, *and* ~~four~~ *six* candidates for ~~two~~ *three* places as member-at-large of the Executive Committee. Additional...

Therefore, **if approved at the 1993 Convention:**

1. The Nominations Committee will bring forth at the 1993 Convention six or more candidates in nomination for places as members-at-large of the Executive Committee. Those three candidates elected wili begin their two-year terms after being installed in office at the 1994 Convention.

2. Those who are already serving as members-at-large will continue to serve their terms according to the bylaws that were in effect at the time they were elected. Therefore, two

members-at-large will rotate off the Executive Committee at the 1993 Convention, having served their complete terms, two will serve one remaining year of their original three-year terms (until the 1994 Convention), and two will serve two remaining years of their original three-year terms (until the 1995 Convention).

3. The Immediate Past-President will serve another year on the Executive Committee instead of rotating off at the end of the 1993 Convention.]

Action: *Adopted*

RESOLUTION #3
For Pharmacy Day in the Legislature to be an on-going event:

Whereas the North Carolina Pharmacy Day in the Legislature, sponsored by the Association was a resounding success, and

Whereas this event is valuable to pharmacy students and encourages their involvement in the event as well as the profession, and

Whereas the success of this event can serve as a prime reason for joining and continuing membership in the North Carolina Pharmaceutical Association;

Be it resolved that the North Carolina Pharmaceutical Association sponsor a Legislature Day on an annual basis.

Action: *Adopted*

NCPHA CONSTITUTION & BY-LAWS COMMITTEE REPORT

The Constitution and By-Laws Committee of the NCPhA met on February 14, 1993, and addressed the following two issues:

1. Constitution and By-Laws Changes Recommended by the Strategic Planning Task Force

The January 14-15, 1993 Strategic Planning Task Force recommended a significant revision of the mission and objectives of the Association. Some important changes also were recommended to the By-Laws. The explicit wording for amending the Constitution and By-Laws will take significant time and input from the various constituencies that the Association represents. Therefore, the Committee recommends that the next year be dedicated to significant study of the Constitution and By-Laws with the intent of presenting a revised document to the Convention in 1994. A special, expanded committee should be appointed for the next year, allowing for broader representation of Association members. That committee should meet at least quarterly and report the outcomes of each meeting to the Executive Committee and to the membership (through the *Carolina Journal of Pharmacy*). A resolution stating this recommendation has been presented to the Executive Committee, and, having gained their approval, will be presented to the 1993 Convention.

2. Recommended Changes in the Executive Committee

Based on the experience of the current Executive Committee and recommendations of the Strategic Planning Task Force, this Committee recommends that the make-up of the Executive Committee be changed. One of the purposes of this change would be to have a greater pool of Association members for nomination to the office of President-Elect. To be nominated for President-Elect, a candidate must have served on the Association's Executive Committee for at least one year. At present, only two Committee members (with the exception of the Immediate Past-President) "roll off" the Committee every year. This occurs because only two members-at-large are elected every year to serve 3-year terms. If 3 members-at-large were elected annually to serve two-year terms, then 3 would "roll off" the Committee every year. The present Executive Committee also recommends that the Immediate Past-President serve an additional year in order to provide the benefit of their extensive leadership experience. Therefore, this Committee has presented this resolution to the Executive Committee, and, having gained their approval, will present it to the 1993 Convention.

CORRESPONDENCE COURSE

PATIENT COUNSELING — SLEEP DISORDERS
PART II: INSOMNIA

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Professor of Pharmacology and Toxicology
Ohio Northern University
Ada, Ohio

J. Richard Wuest, R.Ph., Pharm.D.
Professor of Clinical Pharmacy
University of Cincinnati
Cincinnati, Ohio

Goals

The goals of this lesson are to explain the nature of insomnia, describe the special nature of insomnia in geriatric individuals, discuss nonpharmacologic means to treat insomnia, and suggest patient counseling information for individuals inquiring about insomnia.

Objectives

At the conclusion of this lesson, the participant should be able to:

1. define insomnia, including its causes, classification, problems and management;
2. differentiate insomnia in elderly persons compared to younger adults;
3. demonstrate an understanding of nonpharmacologic means to treat insomnia; and,
4. choose appropriate points of patient consultation on insomnia and sleep hygiene.

Most adults experience insomnia at least once in their lifetime. There is no absolute number of missed hours of sleep that constitutes insomnia, since the amount of sleep required by different people is highly variable. Insomnia is best described as the *perceived* lack of adequate, restful sleep despite the opportunity to sleep, and is associated with fatigue and impaired performance the next day.

Insomnia

Insomnia is the most common of all disturbances of sleep. Affected individuals behave similarly. As they approach bedtime, they often become anxious and tense. They begin to ponder personal problems, work, health, death, and how much sleep they might get that night. In the morning, they will feel anxious, sleepy, mentally and physically tired, depressed, groggy, worried and irritable. Throughout the day they are likely to experience loss of self-confidence, hopelessness, loneliness, nervousness, and fear of losing control of their behavior.

At this time, it is not possible to measure an individual's perception of quality of sleep. It does appear likely, however, that fragmentation of sleep (as indicated by arousals, stage shifts, and perhaps subtle findings in EEF

Table 1
Causes of Insomnia

Medical
Pain
Itching
Nocturia
Inflammatory bowel disease
Cardiovascular disorders
Neoplasms
Infections
Endocrinologic & metabolic disorders
Fever
Chronic obstructive pulmonary disease

Psychologic/psychiatric

Worry	Excitement
Anxiety	Stress
Serious illness	Schizophrenia
Depression	Mania
Panic Disorder	Alcoholism

Other
Disruption of circadian rhythms
New sleeping environment
Drugs (e.g., alcohol, nicotine, theophylline, sympathomimetic amines, caffeine, thyroid, steroids, antihypertensives)
Drug dependence/withdrawal
Sleep apnea
Periodic limb movements

frequencies as determined in the sleep laboratory) may be closely associated with perceived quality.

The severity of insomnia will dictate decisions with respect to treatment. Whether insomnia is transient, short-term, or chronic is also relevant to both diagnosis and treatment.

Etiology. The precise biochemical and pathophysiologic reasons for the various forms of insomnia are not known for certain. But the balance in concentration of sleep-controlling neurotransmitters including acetylcholine, dopamine, gamma-aminobutyric acid (GABA), and serotonin is very important. Table 1 lists many causes of insomnia.

Medical causes of insomnia include pain and irritation which may interfere with the ability to fall asleep and also lead to increased nocturnal awakenings and lighter sleep. Nocturia (excessive urination at night) may be a medical reason for insomnia or the result of taking a diuretic too late in the day.

Many people experience an occasional bout of insomnia associated with emotional upset. Serious psychiatric disorders (e.g., schizophrenia, major depression, mania) will cause sleep disturbance.

The International Classification of Sleep Disorders lists 19 specific mental, neurologic, and medical disorders with which sleep disturbances are associated. Additional causes include disruption of circadian rhythms (e.g., jet lag or work shift change), change of environment (e.g., sleeping in a hotel room), sleep apnea, periodic limb movements, stimulant drugs, drug dependence, and drug withdrawal.

Classification. Insomnia is classified as transient (acute), short-term, or chronic (long-term or persistent). Table 2 lists diagnosis and treatment decisions.

Transient insomnia occurs in an otherwise normal sleeper. Its duration usually does not persist beyond several days. Insomnia is associated with acute stress or disruption of the person's biological clock. Hypnotic drug therapy may or may not be indicated. When used, drugs should be prescribed at their lowest doses and administered only for several consecutive nights, or periodically when needed. These medications should not be taken chronically.

Short-term insomnia is similar to transient insomnia except that it persists for up to four weeks. It, too, is associated with situational stress (e.g., loss of a loved one, family or work conflict), but it can also be due to a serious medical illness. Patient education about sleep hygiene (discussed later) is especially valuable for this type of insomnia. Hypnotic medication is indicated, to be given at the lowest dosage for periods not exceeding three weeks. Doses should be skipped after one or two full night's sleep.

Chronic insomnia lasts longer than four weeks, and accounts for 6 to 10 percent of all cases of insomnia. It is associated with medi-

cal or psychiatric conditions, or use of alcohol and/or other chemicals.

Treatment of the underlying cause is paramount. Hypnotic therapy is indicated only if treatment of the underlying condition fails.

A number of disorders of the biological rhythm are associated with persistent insomnia. Among them is the delayed sleep phase syndrome. Consider the patient who wants to begin sleeping at 11:00 p.m. and awaken at 6:00 a.m. He gets into bed at 11:00 p.m. but cannot fall asleep for 4 or 5 hours. When he awakens (usually when the alarm rings) at 6:00 a.m., he feels tired and unrefreshed. This pattern is repeated night after night.

About 10 to 15 percent of patients with chronic insomnia have an underlying problem with substance abuse, especially stimulants, alcohol, and other sedatives. Stimulant drugs including caffeine can disrupt sleep, especially if taken late in the day. CNS depressants, including alcohol, can cause dependence, and, upon withdrawal, disturbed, restless sleep. Alcohol can disrupt sleep even during the night. Although alcohol may make the individual feel more relaxed and able to fall asleep, the short duration of action may cause mild withdrawal during the night. The person may have disrupted sleep and increased dreaming due to REM rebound. Basically, early in the night, alcohol suppresses REM sleep. Then, as its effect wears off, there is a tendency to make up the lost REM sleep later in the night. The person may feel tired for the rest of the following day.

Alcohol can worsen sleep-related breathing disorders (e.g., sleep apnea) by decreasing muscle tone in the upper airways, resulting in airway obstruction, hypoxemia (lower than normal oxygen concentration in the blood), and fragmented sleep. Sleep may be disturbed for months or years in recovering alcoholics. It is unwise to treat them with benzodiazepines or barbiturates since they are cross-tolerant with alcohol.

Psychophysiologic insomnia can also be transient, short-term, or chronic. It is a conditioned or learned insomnia that the person has associated with his bed, bedroom, or sleep process. The harder the patient tries to sleep, the more difficult it is to do so. The patient becomes apprehensive because he dwells on his inability to sleep and the resultant daytime impairment. Interestingly, such a person often sleeps remarkably well in the sleep laboratory, in a strange hotel room, darkened theater, and other area away from the causes of insomnia, or at times when he is not thinking about trying to fall asleep. This accounts, in part, for why he often has no trouble falling asleep while reading or watching television. He may also limit his evening social activity because it is too arousing, refrain from certain foods because they may keep him awake, or reduce his physical exercise because it is too demanding.

Most persons with insomnia experience it only for a short time. The problem is usually due to acute stress (transient insomnia). Acute stress is easily recognized because it is caused by work-related difficulties, financial problems, a pending marriage or birth, loss of a job, relocation, or death of a loved one. In these cases, OTC sleep-aid products may be useful. Used properly, OTC sleep aids reduce the time needed to fall asleep. However, they should not be used for longer than 14 days since insomnia for this duration requires physician supervision. Manufacturers of OTC sleep aids may not promote them for use as sedatives to prevent nervousness or daytime anxiety. Since they are antihistamines, OTC

Table 2
Types of Insomnia

Type	Duration	Hypnotic Used
Transient	Days	If needed, and prophylactically
Short-term	Weeks	Indicated
Chronic	Months	Adjunctive therapy only

sleep aids should not be given to children under the age of 12 without physician supervision.

Insomnia in the Elderly

Sleep disorders are especially prevalent in the elderly. The 1990 NIH (National Institutes of Health) Consensus Development Conference determined that over one-half of persons older than age 65 living at home, and two-thirds of residents in long-term care facilities, experience some type of sleep disorder. The seriousness of the condition can be appreciated in that this age group receives approximately 40 percent of all sedative/hypnotic prescriptions.

The prevalence of sleep disorders in the elderly is shown in Table 3. Elderly persons experiencing sleep difficulties complain of spending more time in bed, but awakening more frequently and having shorter total sleep time than when they were younger. They generally have difficulty initiating and maintaining sleep, and experience more daytime drowsiness than persons of any other age.

Daytime sleepiness, CNS depression and impaired muscle coordination experienced by this group can decrease their ability to live independently.

Sleep studies have determined that individuals between ages 60 and 80 normally sleep 6 to 6.5 hours each night. After the age of 65, individuals take longer to fall asleep, awaken more often, and remain awake for longer periods of time during the sleep cycle. The elderly experience an increased amount of stage 1 sleep (the lightest and least refreshing) and decreased amount of stages 3 & 4 (deep sleep).

There are changes in the circadian rhythm (normal human awake/sleep pattern) in elderly individuals that cause earlier sleep onset and awakening in the morning. The elderly are more easily aroused from sleep than younger persons and are more sensitive to environmental stimuli that disturb sleep, such as loud noises or temperature changes. All of these characteristics cause the nocturnal sleep of elderly persons to be shorter, lighter and more disturbed than that of younger persons.

Increased nighttime wakefulness with subsequent increased daytime fatigue and napping with perpetuation of sleep difficulty may not always be due to age. It may be symptomatic of other situations characteristic of the elderly. Many elderly individuals suffer from

Table 3
Prevalence of Common Sleep Disorders in the Elderly

Disorder	Estimated prevalence
Adjustment sleep disorder	35%
Primary snoring	Men Women
• regular snoring	60% 40%
• habitual loud snoring	15% 10%
Inadequate sleep hygiene	unknown, probably common
Mood disorders	10 to 40%; ratio of 2 females to 1 male at age 55 that equalizes by age 80
Medical illness & treatment	unknown
Periodic movements of sleep;	5% severe; found in up to 33% of asymptomatic
• restless-legs syndrome	elderly
Sleep apnea	4% symptomatic; over 40% in nursing home residents
Anxiety disorders	1 to 15%
Dementia/delirium	4 to 10%
Psychophysiological insomnia	1 to 3%

from *Geriatrics* 47:45, 1992

chronic medical and psychosocial problems which increase sleep disturbances.

Sleep complaints occur often with medical disorders characterized by physical discomfort, pain, anxiety and depression. Sleep disturbing medical problems in the elderly include gastroesophageal reflux disorder (GERD), peptic ulcer disease, diabetes mellitus, and thyroid disorders. Chronic pain syndromes associated with arthritis, myalgia and trauma, all prevalent in the elderly, can delay initiation or impair sleep maintenance.

The elderly may develop feelings of uselessness and become withdrawn and depressed over life stresses including retirement, changes in income and lifestyle, decreased mobility, loss of family and friends, and health concerns. All can be powerful influences on their sleep physiology.

Approximately 35 percent of older persons suffer from an adjustment sleep disorder. This disturbance is triggered by stress, as described earlier. The elderly individual has problems with sleep onset and maintenance. This disorder leads to daytime irritability, anxiety, lethargy, and tearfulness. Behavioral treatment is preferred for this disorder as the elderly person can adjust to this life change with time. A hypnotic may be used if the person becomes overwhelmed by his situation and the inability to sleep is persistent. Nocturnal myoclonus (periodic movements during sleep) and the restless legs syndrome affect approximately five percent of the elderly. Incidence increases with advancing age.

Alteration of normal sleep patterns is symptomatic of a variety of mood disorders including major depression and mania. These disorders can be initiated or worsened in the elderly by lifestyle changes. Sleep difficulty is seen in 70 to 75 percent of the elderly psychiatric population.

Sleep is typically disturbed in dementia disorders found in the elderly. REM sleep in dementia patients is reported to be diminished, however this has not been consistently reported in all studies.

A classic feature of sleep disturbance seen with dementia is termed *sundowning*. This phenomenon involves nocturnal delirium, hallucinations, delusions, bizarre thoughts, disorientation and confused wandering during sleep.

Table 4
Suggestions for Improving Sleep

- Determine optimal sleep time for maximal efficiency during the day.
- Maintain regular times to retire and arise daily. Time in bed should not exceed 8 hours per night, especially for the elderly.
- Refrain from napping during the day.
- Avoid caffeine after midafternoon and nicotine before bedtime and during the night.
- Abstain from alcoholic beverages, and do not ingest large quantities of any liquid late in the evening.
- Avoid eating too much during the evening. Avoid heavy or spicy foods.
- Exercise regularly, preferably 6 hours before bedtime, but avoid exercise within 3 hours of bedtime.
- Establish a relaxing routine in preparation for sleeping. Avoid frustrating activities just before bedtime.
- Avoid using the bedroom for nonsleep activities such as watching TV.
- If unable to fall asleep within 20 or 30 minutes, get up and go to another room. Do not return to the bedroom until sleepy.
- Control the room temperature (slightly cool is better than too warm), and minimize environmental noise.

Management of Insomnia

Several concepts are extremely important to successful management of insomnia. Insomniacs must maintain a good relationship with their physician. This will help prevent future misuse of hypnotic drugs and alcohol. The same reasoning holds for maintaining a good

relationship between the individual and pharmacist. When the problem is occasional and short-term, insomnia can be successfully managed with an OTC product.

Therapeutic measures for insomnia also include withdrawal of excessive, inappropriate, or ineffective medications; education of patients and their bed partner about sleep and the management of stress; relief of symptoms following appropriate, supervised treatment with hypnotic agents; and reinforcement of constructive changes in the patient's coping mechanisms, personal relationships, and lifestyle.

Patients with psychiatric disorders (e.g., major depression) require treatment of the underlying disease. Some need to be referred to a sleep-disorder specialist if a physical cause (e.g., sleep apnea, restless-legs syndrome, or nocturnal myoclonus) is suspected, or the patient has a particularly intractable, treatment-resistant form of insomnia.

Sleep Hygiene. The term *sleep hygiene* refers to measures the patient can take to maximize sleep. Sleep hygiene includes going to sleep at night and awakening in the morning at the same time every day, even on weekends and holidays. Table 4 lists important suggestions for improving sleep hygiene.

Overview

Many people experience temporary insomnia. It is only when insomnia persists, or it begins to interfere with normal daytime activities that affected individuals seek help. If nonpharmacologic measures discussed in this lesson do not alleviate the problem, there are a variety of hypnotic drugs that promote sleep, and a number of OTC products that promote onset.

CORRESPONDENCE COURSE QUIZ

Patient Counseling–Sleep Disorders Part II: Insomnia

1. Ingestion of alcoholic beverages before going to bed is most likely to:
   a. increase REM sleep.
   b. improve sleep-related breathing disorders.
   c. lead to a good night's sleep.
   d. cause mild withdrawal during the night.

2. Nocturnal myoclonus refers to:
   a. bed wetting.
   b. rapid snoring.
   c. movements during sleep.
   d. sleep walking and wandering.

3. Good sleep hygiene includes which of the following actions?
   a. Exercising immediately before bedtime.
   b. Taking several daytime naps.
   c. Increasing alcohol consumption.
   d. Waiting until sleepy before going to bed.

4. Which of the following drugs is LEAST likely to cause insomnia?
   a. Antihistamines
   b. Nicotine
   c. Sympathomimetic amines
   d. Theophylline

5. All of the following statements about insomnia are true EXCEPT:
   a. it is the most common of all sleep disturbances.
   b. the treatment of all types of insomnia is the same.
   c. it is best described as the perceived lack of adequate, restful sleep.
   d. chronic insomnia can lead to loss of self confidence and hopelessness.

6. Which of the following percentage groups of patients with chronic insomnia reportedly has an underlying problem with substance abuse?
   a. 10 to 15 b. 40 to 50
   c. 60 to 75 d. 90 to 100

7. Excessive carbon dioxide in the blood is referred to as:

a. hypercapnia.
b. hypernatremia.
c. hyperchlorhydria.
d. hyperoxemia.

8. All of the following statements about chronic insomnia are true EXCEPT:
a. it is associated with medical conditions.
b. it lasts less than 4 weeks.
c. it is associated with psychiatric conditions.
d. treatment of the underlying cause is paramount.

9. All of the following are sleep-controlling neurotransmitters EXCEPT:
a. acetylcholine.
b. dopamine.
c. gamma aminobenzoic acid.
d. serotonin.

10. Compared to younger persons, individuals over 65 years of age are most likely to experience:
a. decreased amount of stage 1 sleep.
b. increased amount of stages 3 and 4 sleep.
c. more frequent and longer awakenings during the night.
d. shorter periods of time needed to fall asleep.

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Please circle correct answer

1. a b c d	4. a b c d	7. a b c d	
2. a b c d	5. a b c d	8. a b c d	
3. a b c d	6. a b c d	9. a b c d	10. a b c d

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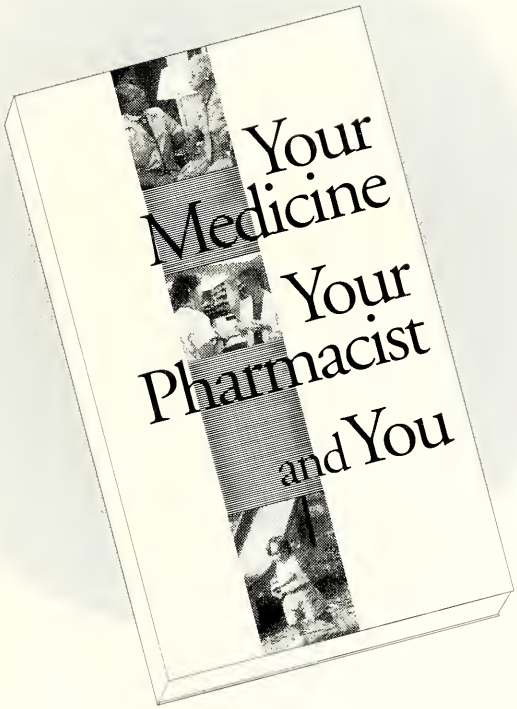

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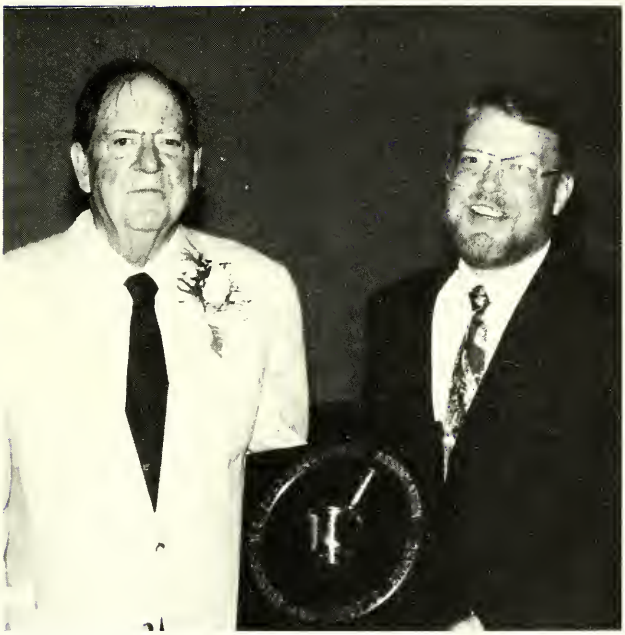

NCPhA Immediate Past President Henry Smith, *right*, presents the Mortar-and-Pestle Award to the 1993 recipient David D. Claytor.

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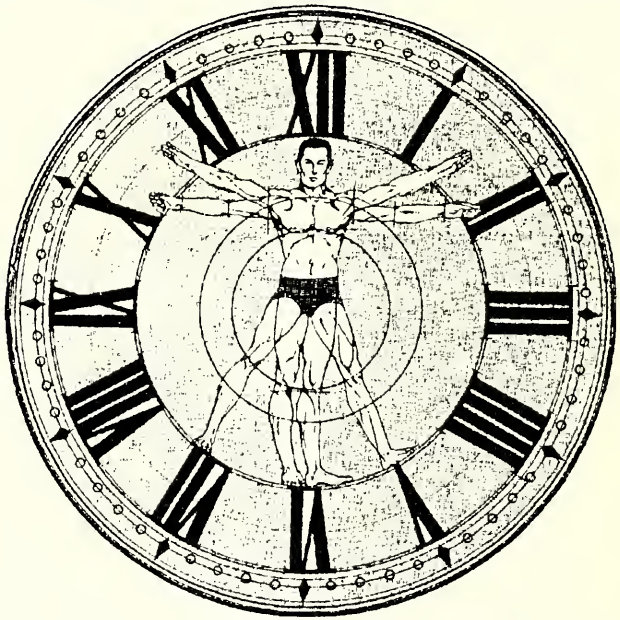

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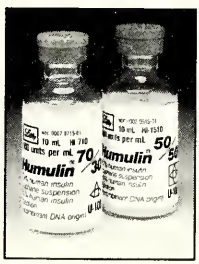

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CDC

A message from the U.S. DEPARTMENT OF HEALTH & HUMAN SERVICES, Public Health Service, Centers for Disease Control and Prevention.

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The Claytor family at the Mortar-and-Pestle Dinner. *Back row:* **Dave and Susan Macer, Mr. Claytor, Patsi and Jeffrey Lee.** *front row:* **Meredith and Steve Lee and Mrs. Claytor.**

Mr. Claytor and his two daughters, Susan Lee, *left,* **and Patsi Macer,** *right,* **who presented him with their own special award.**

Dave Claytor with program participant Margaret Ramsey.

CLAYTOR HONORED AT MORTAR–AND–PESTLE DINNER

David Dortch Claytor of Greensboro was recognized as the 1993 North Carolina Pharmacist–of–the–Year at the Mortar–and–Pestle Dinner held Friday night, August 6, 1993 at the Holiday Inn Four Seasons Hotel in his hometown.

Claytor, a native of Hillsborough and long-time resident and pharmacy leader in Greensboro, was acclaimed for his many years of service to pharmacy as 1983-84 president of the North Carolina Pharmaceutical Association, 15 years on the North Carolina Board of Pharmacy which he also served as president, and as a clinical associate professor of the UNC School of Pharmacy and assistant director of the pharmacy Area Health Education Centers (AHEC). Claytor was co-owner of Medical Center Pharmacy in Greensboro and Greensboro Drug Company. He was president of the Greensboro Drug Club and the Guilford County Society of Pharmacists

Over two hundred pharmacist colleagues from across the state, as well as friends, relatives and neighbors, attended the dinner program, presided over by 1993-94 NCPhA President W. Robert Bizzell of Kinston. Tributes to Claytor were given by Frank Burton and Ben Collins, both of Greensboro, Claude Paoloni of Chapel Hill, Harold Day of Spruce Pine and Margaret Ramsey of Gastonia. In addition, Claytor's two daughters, Patsi Claytor Lee of Selwickley, Pennsylvania and Susan Claytor Macer of McDonough, Georgia, spoke about growing up in the home and how much their father influenced them as a role model. Burton said it was nice to be honoring "one of our own.", Paoloni told of his experiences with Claytor in the Guilford County Society of Pharmacists and Claytor's role in developing the constitution and bylaws of that organization, his great love and joy in teaching dispensing in the UNC School of Pharmacy and his role in the academic internship program. Paoloni also commented on Claytor's expertise in making sourdough bread, which he always shared. Ben Collins, a classmate of Claytor's, spoke about "college days," leaving little to the imagination. Harold Day, who served for many years with the honoree on the NC Board of Pharmacy, spoke about Claytor's devotion to pharmacy, his church, his community and his family, and shared "the rest of the story" with anecdotes about Claytor's infamous questions on the State Board exams. He noted

Program Participants: Susan Claytor Lee, Dave Claytor, Patsi Claytor Macer, Claude Paoloni, Harold Day, Ben Collins, Margaret Ramsey, Rob Bizzell and Frank Burton.

that in 1922, the country welcomed Dave Claytor, the Readers Digest and Judy Garland. Mrs. Ramsey stated she was one of Dave's team from 1962-63 and said "that while he taught me much about pharmacy, he taught me much more about life." Henry Smith of Farmville, immediate past president of the NCPhA, presented the coveted Mortar-and-Pestle Award plaque. Claytor is the 47th recipient of this prestigious award.

Previous recipients and this year's honoree. Harold Day, Bill Randall, Dave Claytor, NCPhA Coat of Arms, Milton Whaley, Ralph Rogers, Jack Watts, Jesse Pike, John Henley, Barney Paul Woodard, Teamie West, Jimmy Creech, Whit Moose, John Hood, Bob Hall, Jean Provo and Ed Fuller.

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PRECAUTIONS: Digoxin toxicity develops more frequently and lasts longer in patients with renal impairment because of the decreased excretion of digoxin. Normal potassium and magnesium levels should be maintained in patients treated with digoxin. Calcium, particularly when administered rapidly by the intravenous route, may produce serious arrhythmias in digitalized patients. Hypercalcemia predisposes the patient to digitalis toxicity, whereas hypocalcemia can cause digoxin to become ineffective. Patients with acute myocardial infarction or severe pulmonary disease may be unusually sensitive to digoxin-induced rhythm disturbances. Atrial arrhythmias associated with hypermetabolic states are particularly resistant to digoxin treatment. Large doses of digoxin are not recommended as the only treatment of these arrhythmias; if large doses are required, be careful to avoid toxicity. In hypothyroidism, digoxin requirements are reduced. Reduction of digoxin dosage may be desirable before electrical cardioversion to avoid induction of ventricular arrhythmias. If digitalis toxicity is suspected, elective cardioversion should be delayed. Patients with incomplete AV blocks may progress to advanced or complete heart block when given digoxin, especially in patients with Stokes-Adams attacks. Digoxin may worsen sinus bradycardia or sinoatrial block in patients with sinus node disease. Digoxin may cause rapid ventricular rates and ventricular fibrillation in patients with Wolff-Parkinson-White Syndrome and atrial fibrillation. Because it may worsen the outflow obstruction in patients with idiopathic hypertrophic subaortic stenosis (IHSS), digoxin should only be used in severe cardiac failure in this setting. Patients with chronic constrictive pericarditis may fail to respond to digoxin. Slowing of the heart rate by digoxin in some patients may further decrease cardiac output. Patients with heart failure from amyloid heart disease or constrictive cardiomyopathies respond poorly to digoxin. (See DRUG INTERACTIONS section.)

Laboratory Tests: Serum electrolytes and renal function should be assessed periodically.

Drug Interactions: Potassium-depleting *corticosteroids* and *diuretics* may be major contributing factors to digitalis toxicity. *Calcium*, particularly if administered rapidly by the intravenous route, may produce serious arrhythmias in digitalized patients. *Quinidine, verapamil, amiodarone,* and *propafenone* cause a rise in serum digoxin concentration, with the implication that digitalis intoxication may result. Certain *antibiotics* increase digoxin absorption in patients who inactivate digoxin by bacterial metabolism in the lower intestine, so that digitalis intoxication may result. *Propantheline* and *diphenoxylate*, by decreasing gut motility, may increase digoxin absorption. *Antacids, kaolin-pectin, sulfasalazine, neomycin, cholestyramine*, certain *anticancer drugs* and *metoclopramide* may reduce intestinal digoxin absorption, resulting in unexpectedly low serum concentrations. There have been inconsistent reports regarding the effects of other drugs on the serum digoxin concentration. *Thyroid* administration to a digitalized, hypothyroid patient may increase the dose requirement of digoxin. Concomitant use of digoxin and *sympathomimetics* increases the risk of cardiac arrhythmias because both enhance ectopic pacemaker activity. *Succinylcholine* may cause a sudden extrusion of potassium from muscle cells, and may thereby cause arrhythmias in digitalized patients. Although ß adrenergic blockers or calcium channel blockers and digoxin may be useful in combination to control atrial fibrillation, their additive effects on AV node conduction can result in complete heart block.

Carcinogenesis: No long-term animal studies have been performed to evaluate carcinogenic potential.

Pregnancy: Pregnancy Category C. Animal reproduction studies have not been conducted with digoxin. Digoxin should only be given to a pregnant woman if clearly needed.

Nursing Mothers: Studies have shown that the digoxin concentration in the mother's milk is far below the usual infant maintenance dose and should have no pharmacologic effect upon the infant. Nevertheless, caution should be exercised when digoxin is administered to a nursing woman.

ADVERSE REACTIONS: The overall incidence of adverse reactions has been reported as 5 to 20%, with 15 to 20% (1 to 4% of all patients) of them being considered serious. Evidence suggests that the incidence of toxicity has decreased since the introduction of the serum digoxin assay and improved standardization of digoxin tablets. Cardiac toxicity accounts for about one-half, gastrointestinal disturbances for about one-fourth, and CNS and other toxicity for about one-fourth of these adverse reactions.

Adults: ***Cardiac***—unifocal or multifocal VPCs; ventricular tachycardia; AV dissociation; accelerated junctional (nodal) rhythm and atrial tachycardia with block, excessive slowing of the pulse; AV block (Wenckebach) of increasing degree may proceed to complete heart block.

Gastrointestinal: anorexia, nausea, vomiting, occasionally diarrhea; and very rarely hemorrhagic necrosis of the intestines and abdominal pain.

CNS: visual disturbances, headache, weakness, dizziness, apathy and psychosis.

Other: gynecomastia.

Infants and Children: Anorexia, nausea, vomiting, diarrhea and CNS disturbances may be present but are rare as initial symptoms in infants. Cardiac arrhythmias are more reliable signs of toxicity. Digoxin in children may produce any arrhythmia. Most common are conduction disturbances or SVTs, such as atrial tachycardia with or without block, and junctional (nodal) tachycardia. Ventricular arrhythmias are less common. Sinus bradycardia may also be a sign of impending digoxin toxicity, especially in infants, even in the absence of first degree heart block.

September 1991 542253

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References: 1. Packer M, Gheorghiade M, Young JB, et al. Randomized, double-blind, placebo-controlled, withdrawal study of digoxin in patients with chronic heart failure treated with converting-enzyme inhibitors. *J Am Coll Cardiol.* 1992;19:260A. Abstract. **2.** Young JB, Uretsky BF, Shahidi FE, Yellen LG, Harrison MC, Jolly MK. Multicenter, double-blind, placebo-controlled randomized withdrawal trial of the efficacy and safety of digoxin in patients with mild to moderate chronic heart failure not treated with converting enzyme inhibitors. *J Am Coll Cordiol.* 1992;19:259A. Abstract.

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COMMITTEE ON HEALTHCARE REFORM & PUBLIC POLICY

An ad-hoc committee is being established to address the immediate and long-term issues of health care reform and public policy.

John Mitchener III, Edenton, will serve as chairman of this committee. Appointments on this committee will be for a two-year term.

Representatives from all segments of the pharmacy community are sought for this committee. If you are interested in serving you may forward your name, address, practice site, and telephone number(s) to:

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P.O. Box 151
Chapel Hill, NC 27514
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Appointments to this committee will be made by March 1, 1994.

KATY'S KIDS PROGRAM AVAILABLE TO NORTH CAROLINA PHARMACISTS

Katy's Kids was developed by the Iowa Pharmacists Association as an initiative to educate children about responsible medication use. The materials have been made available to all state pharmacy associations through an educational grant from the Upjohn Company and the National Council of State Pharmaceutical Association Executives (NCSPAE).

Poison prevention and drug abuse education have become commonplace in classrooms throughout the country. Ironically, however, little effort has been made to teach children about medicine in general. Education regarding responsible medication use is fundamental in order for children to understand both the potential benefits and the harm medicines can cause.

Katy's Kids is an educational program designed to teach young children about appropriate and responsible medication use. The most important part of this program is the volunteer pharmacist. It will be the pharmacist's efforts, combined with the program materials, which will stress the importance of using prescription drugs properly. If children can grasp that important concept at an early age, they will have an increased compliance with their medications and be less likely to become involved with harmful drugs later in life.

The changing role of the pharmacist, from a dispenser of drugs to a dispenser of drug information, is becoming a common thread in many contemporary pharmacy issues. In fact, it has been stated that the future of the profession of pharmacy lies in the ability of the pharmacist to communicate his or her knowledge to patients and to increase the public's awareness of that service. Katy's Kids is one of the many programs available today that supply pharmacists with the materials necessary to provide health information to their communities.

Pharmacists are encouraged to volunteer to present the Katy's Kids program in their community. The packet of material is available through NCPhA. It includes the program material as well as additional resource material on how to promote and use the program.

For more information, contact NCPhA, P.O. Box 151, Chapel Hill, NC 27514 or call 1-800-852-7343.

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PHARMACISTS HAVE MANY OPTIONS TO CONSIDER IN SELECTING RETIREMENT PLAN

By Stevan A. Rexroad, Registered Representative
The Equitable Life Ins. Corp., Wilmington, NC

Some people look forward to it; others dread it. Some people prepare carefully for it; others do not bother.

The subject is retirement. And for the owner of a small business, it is a very complicated subject indeed.

Whether we like it or not — or whether we are ready or not — the time eventually comes, for most of us at least, when we will have to "hang it up."

Our best wish for retirement years is good health. Second to that is financial security. The former is something we do not control. The latter is something for which we must prepare.

A rule of thumb states that something like 65 to 85 percent of pre-retirement income is required to maintain a standard of living in retirement comparable to that of working years.

The question is, where will that amount of money come from? For most people it will come from three sources: Social Security, a work related retirement or pension plan, and personal savings or investments.

If one of the three is missing or underfunded, a retirement plan is like an airplane with one of its engines out: it might take you where you want to go, but you are not going to feel comfortable about it.

Retirement Planning

Retirement planning today must consider several factors:

Inflation. Even at a relatively moderate rate of five percent, a 1990 dollar will be worth only about $.60 by the time 2000 rolls around.

Uncertainty about Social Security. It is not likely that Social Security will be abolished, but the percentage of its contribution to the typical retirement plan may diminish. That is because there are more and more retired people drawing from the program and proportionately fewer productive workers paying into it.

Uncertainty about employer-sponsored pensions. Traditional pension plans are becoming more expensive to fund and administer. Some companies are eliminating or drastically altering them.

Longer life spans. This is a good news/bad news story. We will live longer, and the longer we live, the more money we will need for retirement. This, coupled with many who are retiring at an earlier age, leads to the retirement stretch (the compounding stretch of retiring earlier and living longer).

Rising tax rates. Recent actions by Congress have shown that tax rates are subject to increases. If rates do rise, popular retirement options like IRA plans and Keogh plans may not be as good as they now seem. Sheltering income from current taxes at 28 percent may not always make sense if you expect to pay taxes on the money at a substantially higher rate when you withdrew it.

Many pharmacy owners neglect planning for their retirement. They may be too busy building their business to think 25 or 30 years down the road, or they may feel they need to plow all their available cash back into their company. Whatever the reason, the pharmacy

owner who does not plan for retirement may come up short on at least one, possibly two, of the three traditional sources of retirement income. Not only does he lack a company pension, but also his personal investments may be woefully inadequate. Equity in the business would replace investments, but there is no way to know how much the company will be worth when he is ready to retire. Some businesses do well while the owner is active but are worth little or nothing without the owner's energy and expertise.

In addition to providing their own retirement, many pharmacy owners are finding that they must provide retirement programs for their employees. Otherwise, they cannot compete with larger companies for the best people.

Retirement Plan Options

Several options are open to the pharmacy owner who wants to start a company retirement program. There is no "right" one. Each has advantages and disadvantages. Selecting the best-suited plan is a matter of considering funding costs, tax consequences, administrative requirements and, of course, the needs of the company and its employees. It is generally advisable for an owner to consider some type of "qualified" or "tax-qualified" plan. Employer contributions to a qualified plan are tax-deductible, and there is no tax on income earned by the plan's assets until the employee begins receiving payments.

A qualified plan can be a "defined-benefit" or a "defined-contribution" plan. Basically, a defined-benefit plan is one in which the amount the participant will receive upon retirement is set (defined) by a formula. The formula usually is derived from the retiree's length of service and average pay over the last several years of employment. A common form of defined-benefit plan is the traditional company pension plan that pays retirees a guaranteed sum for life.

The employer makes contributions to the plan in amounts necessary to ensure that the money to pay the defined-benefits will be available when the employee retires. If the fund's investments do not perform well, the employer might have to ante up more money to meet the plan's commitment to employees.

Although tax benefits to the company can be significant, the risks may be great and the administrative costs may be high. One significant cost is for fees paid to the Federal Pension Benefit Guaranty Corporation to provide a limited guarantee that some benefits will be paid as promised.

For these reasons, defined-benefit plans are used less frequently in small pharmacies. In recent years, even large corporations have begun to move away from these plans in favor of defined-contribution plans.

A defined-contribution plan is one in which the employer's annual contribution to the fund, rather than the retiree's benefit, is set (defined) at a particular level by a formula of some kind — for example, a percentage of compensation. The employer bears no responsibility for the fund's performance. Thus, the employee is the one who stands to lose if the fund's investments do not prosper. It works both ways, of course: if the fund does well, the employee might retire with higher benefits than he would have under a traditional defined-benefit pension.

Defined-contribution plans include profit-sharing, 401(K) plans, thrift plans, ESOP plans, and others.

Generally, qualified retirement plans must be available to all full-time employees. Therefore, they are not suitable for the pharmacy owner who wants to cover only himself and a few key employees.

Private Pension Plans

A retirement program that is rapidly gaining favor with small pharmacy owners is the private pension plan funded by a life insurance contract. Although the tax benefits may not be as favorable as those associated with qualified retirement plans, private pension plans are easy to set up and administer, and the owner can choose to cover only key employees.

There are several variations on the private pension concept, but generally, this is the way they work: the company buys a life insurance policy and names the employee as

the owner. Premiums are deductible to the company but taxable to the employee. Cash values, however, are allowed to accumulate tax-deferred. The life insurance policy can be funded so that cash values, over time, should have the potential of exceeding the amount of premiums, in which case the employee can retire with a substantial asset to draw upon for retirement income.

If the retired employee elected to "cash in" the policy, a tax liability would be incurred. However, he can borrow against the cash values. Policy loans are not considered taxable income, and the loans should not result in taxable income or do not have to be repaid as long as the policy is kept in force and not permitted to lapse. When the retiree dies, the loans are repaid from the policy's death benefit.

As with other important financial decisions, selecting the right retirement program for an individual or a business requires careful examination of all options. This article is intended only to touch briefly on some of the options available to pharmacy owners. Unless you are thoroughly familiar with applicable laws and procedures, you should consult appropriate professionals (tax advisors or other financial advisors) before deciding what is best for you and your pharmacy.

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EMERGENCY MEDICAL INFORMATION: AN IMPORTANT NEW PATIENT EDUCATION ROLE FOR PHARMACISTS

By Jordan Johnson, Pharmacist, MS, Manager, Pharmacy Affairs
Zeneca Pharmaceuticals Group

Emergency care in the United States involves approximately eighty million emergency department visits per year. Ten million of these visits require immediate attention—especially those cases in which life is in jeopardy or an important part of the body may be lost. In many hospitals, as many as sixty to seventy percent of patients are admitted through the emergency department.

On any given day, hospital emergency departments will handle over 220,000 emergencies. These can range from life-threatening situations such as severe trauma suffered in an auto accident or cardiac arrest, which require immediate and extensive treatment, to minor abrasions and self-limiting diseases, such as a respiratory infection or an upset stomach.

However, emergency physicians estimate that in one out of four of these emergencies, the patients involved have some type of underlying medical condition that could complicate emergency treatment or present conflicting signs to the emergency treatment team.

It is estimated that as many as five million emergencies each year would benefit from a system that provides the emergency physician or emergency department staff with up-to-date medical information about the patient.

When Seconds Count

In emergencies seconds count and, in some cases, can make the difference between life and death. Personal medical information is the first thing needed by emergency responders in order to treat patients in an accident or emergency. Such information can be life-saving. Because patients are often unconscious or too confused to give accurate and important medical information, inappropriate or inadequate care of emergency victims may result. If an emergency victim's medical history was available and appropriate emergency care instituted, hospital admissions due to emergencies might decrease and help reduce the rising cost of health care in America.

The Major Problems

Some examples of pre-existing or hidden conditions that can complicate emergencies are heart problems, diabetes, glaucoma, leukemia, asthma, or alcoholism.

Patients with the type of diabetes that requires daily insulin shots, for example, often behave as if they are drunk when the sugar in their body is too high. These people may well end up in the "drunk tank" rather than being given the injections of insulin they so desperately need. Without appropriate treatment, diabetics may suffer brain or kidney damage.

Other special situations involve patients who have synthetic heart valves or other surgical implants. While metal and plastic valves may be detected in an x-ray, today's more sophisticated and improved valves made from animal tissue cannot be seen. More importantly, in some emergencies, there may not be time to do an x-ray. This may present a particularly serious situation when, for example, a patient suffering a trauma in an automobile accident produces dangerously rapid heartbeat. Although a normal heart can beat up to 260 times per minute and still function efficiently, mechanical and artificial valves will fail under these conditions.

Other pre-existing conditions that need to be communicated to emergency personnel include allergies or sensitivities to such commonly used medications as narcotic pain killers, penicillin, dyes used in some x-ray procedures, anti-convulsants, beta blockers used in hypertension and angina, and even aspirin. Information on medications taken routinely is also necessary to prevent drug interactions with those that may be administered in the emergency department.

Another special condition that emergency department personnel need to be aware of is the patient wearing contact lenses. During emergency treatment, these should be removed. However, today's modern contracts are so difficult to detect, they may not be removed and damage to the eyes may ensue as a result of some life-saving treatments.

The Best Protection

In emergency situations, it is a medical necessity to have a reliable source of vital information that can be accessed immediately.

"The best system is provided by Medic Alert Foundation International," asserts Stephen Lynn, MD, Director of Emergency Services at Roosevelt Hospital in New York City. Dr. Lynn, who is also past president of the American College of Emergency Physicians, notes that "the MedicAlert emblem provides emergency department staff with information so they can set priorities in diagnosis and treatment."

The MedicAlert emblem can be an emergency victim's link to life. The MedicAlert protection comes in the form of a small, engraved, silver-colored emblem worn on a bracelet or necklace with a red engraving of the international symbol of MedicAlert.

Over 35 years ago, the Medic Alert Foundation was established as a nonprofit, international foundation and national health organization to register patients who are at special risk in emergencies. Dr. John Collins, a physician in California, founded the organization after his daughter suffered a near fatal allergic reaction during treatment in an emergency room because the physician treating her did not know that she was allergic to the serum he was using.

Today, MedicAlert is endorsed by most national medical and pharmacy organizations, and it is the only emergency medical information system endorsed by the American Hospital Association and the American College of Emergency Physicians.

MedicAlert has more than three million members (two million in the U.S. alone) and serves 34 countries through 21 affiliates around the world.

How MedicAlert Works

The universally recognized Medic Alert System is a crucial investment in health protection, not only for Americans who live in this country but also for those who travel abroad on business or pleasure. Here's how it works:

For a small lifetime fee, members receive a necklace or bracelet engraved with

their membership number, medical condition, and a 24-hour toll-free information hotline number.

Members also receive a wallet card listing additional personal and medical information not provided on the emblem. Every year, MedicAlert provides a new wallet card encouraging the updating of any pertinent information (new medication, new specialist, change of address, new conditions, etc.).

Police, paramedics, emergency medical teams, and firefighters are trained to look for the MedicAlert emblem at the scene of an accident. The MedicAlert answering service has doctors, nurses, and other authorized personnel on call 24 hours a day. The hot-line can be called collect from anywhere in the world. Within seconds, the operators will provide additional information about the registered member.

Pharmacists are an ideal resource to advise their patients at risk in emergencies about the availability of a 24-hour emergency identification and medical information system.

The 24-hour telephone hotline is tied into a sophisticated computer data system and is a critical life-saving feature that makes available:

- Additional emergency medical information beyond the two or three items on the emblem (nearly forty percent of MedicAlert members have two or more conditions).
- The name and phone number of next-of-kin or person to notify in the event of an emergency.
- The name and phone number of the patient's pharmacy.
- Additional information about medications and dosages the patient may be taking.

The MedicAlert Imitators

In recent years, profit-making companies, using names that sound like Medic Alert, have tried to impersonate the unique MedicAlert system, but cannot provide the worldwide 24-hour service or the computerized system that keeps the patient's history up-to-date.

"The single-condition emblems distributed by some of these companies are simply not adequate," says Dr. Lynn. "A bracelet that simply states 'heart condition,' for example, is much too general. One that states 'epilepsy' is also inadequate. In these cases, the emergency physician needs to know the exact nature of the disorder, as well as the medication the patient is taking, and the doses," he adds.

Because most of these "trinkets" are not updateable, and have no hotlines available when additional information is critical, they can actually complicate emergency treatment. While some imitation services offer wallet cards, cards alone may not always reach the ER (Emergency Room) because the wallet may be lost during an accident or robbery. In many states, it is illegal to do a wallet or purse search. Even in states where it is legal, the search is often not performed because of liability problems.

"Unfortunately, the public often does not know the difference between MedicAlert and the imitators," Dr. Lynn warns. Also, because many people tend to buy services and items on the basis of price, many people simply think they are getting MedicAlert because the names are intentionally similar and confusing.

How Do Patients Enroll in MedicAlert?

Any person who wishes to register can write to the MedicAlert Foundation International, Turlock, CA 94381-1009 or phone 100-ID-ALERT for an application.

An easier and much quicker way to enroll is by asking your local community pharmacist. Several years ago, the MedicAlert National Pharmacy Task Group was formed to launch a special outreach program to patients through the nation's 60,000 pharmacies. Already, more than 30,000 pharmacies are participating, and more are joining the effort every year.

The thinking behind the National Pharmacy Program was that pharmacists are one of the most accessible resources in the community. Drugstores are open consistently — even on Sundays — and sooner or later most residents in a community pass through to pick up a prescription, get one refilled, or purchase any of a wide selection of

over-the-counter medications.

A person might have three or four physicians but only one pharmacist. The pharmacist today often has more complete medical information on a patient than any individual physician.

Pharmacists are an ideal resource to advise their patients at risk in emergencies about the availability of a 24-hour emergency identification and medical information system. Offering information about hidden medical conditions to patients also allows pharmacists to exercise their obligations under "ORBA 90." Pharmacists, by virtue of their accessibility, are also in the best position to distribute MedicAlert enrollment applications and assist customers in filling them out.

This has proven to be the case. To date, 200,000 patients have been enrolled through pharmacies, some 50,000 of these patients have relied on MedicAlert in emergencies, and most important, about 6,500 lives have been saved as a result of direct pharmacy counseling.

The pharmacist as counselor has another advantage with MedicAlert. If a pharmacist encounters a person who is "medically indigent," nonprofit MedicAlert will provide a complimentary membership. All that is needed is a note from the pharmacist indicating that the person cannot afford to pay, to be mailed along with the application.

With all the services that MedicAlert provides to registered members, this protection could be one of the wisest and most important investments patients make in their health care. A gift of MedicAlert membership is a kind and loving way to tell a relative or friend that his or her health and well-being are vitally important. It can be their link to life in an emergency.

MedicAlert

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National Pharmacy Program Speaker's Kit

The Medic Alert Task Group and Zeneca Pharmaceuticals Group have launched an exciting new Consumer Education Program for Pharmacists. The program is designed for pharmacists to take into their communities and use to educate consumers about the dangers of hidden medical conditions, interactions with drugs, and the importance of an emergency response service.

The easy-to-use speaker's kit is complete with slides, a script and an informative how-to guide for presentations to various consumer audiences. The kit is available from the North Carolina Pharmaceutical Association on a two-week loan.

If you would like to preview this kit, contact NCPhA, P.O. Box 151, Chapel Hill, NC 27514 or call 1-800-852-7343.

CORRESPONDENCE COURSE

PATIENT COUNSELING ON HYPNOTICS
PART I: GENERAL GUIDELINES

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Goals

The goals of this lesson are to discuss the guidelines for use of hypnotic drugs, and consider specific pharmacologic, toxicologic, and pharmacokinetic principles of barbiturates, nonbarbiturates, and nonbenzodiazepine hypnotics.

Objectives

At the conclusion of this lesson, the participant should be able to:

1. choose correct information about the pharmacology and toxicology of hypnotic drugs discussed in this lesson;
2. select important pharmacokinetic principles about these drugs;
3. select means by which elderly individuals respond to hypnotics differently than younger adults;
4. identify properties of the ideal hypnotic drugs; and,
5. choose important information to convey to persons using hypnotic drugs to help overcome sleep disorders.

Hypnotics do not cure insomnia; they provide symptomatic relief. When they are employed, they should be used as adjunctive treatment for transient to short-term insomnia as part of a therapeutic program that consists of patient education about the basic disorder and nonpharmacologic treatment.

Background

Herbal remedies and other potions have been used throughout history to promote sleep. Chloral hydrate and bromide mixtures were popular in the late-1890s. Barbiturates appeared near the turn of the century and remained hypnotics of choice until the late-1960s. Today, the risk of abuse and deaths due to overdose from barbiturates has discouraged their use as hypnotics.

The benzodiazepines were released during the 1960s and marked a new beginning for safety and specificity of action. Deaths from hypnotic drug overdose declined dramatically. The benzodiazepine derivatives proved to be more CNS-specific in their action than barbitu-

rates which cause a higher level of lethal respiratory depression.

Properties of an Ideal Hypnotic

The ideal hypnotic drug should induce sleep soon after ingestion and sustain it for the expected duration without producing episodes of nocturnal or early morning awakenings. Its duration of action should be short enough that it does not cause morning hangover and impaired daytime performance. It should not induce tolerance or dependence when used for several consecutive nights. It should not alter the patient's natural sleep patterns or cause next-day drowsiness, rebound insomnia, amnesia, or withdrawal symptoms on cessation of therapy. It should possess a wide margin of safety. The ideal hypnotic should make abnormal sleep normal, while not altering the sleep of a normal sleeper. It should not cause significant interactions with other drugs or food.

An important consideration that helps distinguish between anxiolytic (sedative) and hypnotic uses for CNS-depressant drugs is their rate of absorption. An anxiolytic drug, for example, should have a relatively slow rate of absorption to assure that the drug will not reach excessively high plasma concentration too quickly and cause hypnotic action. In contrast, a hypnotic drug should be rapidly absorbed so that it will have a relatively prompt onset of action.

The time required for elimination from the body is another important factor for hypnotic drug action. This is usually expressed in terms of elimination half-life (t1/2), which is the time it takes from the point of peak plasma concentration until one-half of that amount remains. Elimination half-life should not be confused with duration of action. A long biological half-life does not always correlate with a long duration of action, and a short half-life does not necessarily mean the drug has a short duration of action.

Hypnotics differ from one another in their half-lives. Since a sleep time of 7 to 8 hours is sufficient for most people, a hypnotic with a half-life that exceeds 7 hours may remain at high enough concentration in the body throughout the morning, thereby producing hangover.

A hypnotic with a half-life of 3 to 4 hours is satisfactory for people who have difficulty falling asleep. For those who cannot remain asleep or awaken prematurely, a drug with a half-life of 5 to 7 hours is more appropriate.

The accumulation factor is another reason why the elimination half-life should be carefully considered. When ingested over successive nights, a hypnotic with a long half-life can remain at high levels in the plasma and accumulate in the body. This accumulated drug can suppress alertness and psychomotor function during waking hours the next day.

Hypnotic Drugs

Barbiturate and Nonbarbiturate Hypnotics. At present, most barbiturates and nonbarbiturates (Table 1) are rarely prescribed. There are few, if any, sound reasons to use them to treat insomnia, with the possible exception of patients who do not respond to the newer, safer hypnotics. Their risks for causing tolerance, addiction and death by overdose are considerably greater than those with benzodiazepine derivatives which have replaced them in therapy. Benzodiazepines are safer and less prone to drug dependence.

There is a newer class of nonbenzodiazepine hypnotics, the imidazopyridines. The first of these drugs, zolpidem (Ambien), was approved for marketing in late-1992. Another member of the class, zoliclone, is in phase III clinical studies, and several others are at various stages of development. These imidazopyridine derivatives seem to be nearly ideal as hypnotics in that they have a rapid onset of action, short duration of action, and very low abuse potential.

Once the standard for inducing and maintaining sleep, barbiturates lost popularity as a result of their narrow margin of safety and high risk of toxicity. Their abuse potential is a problem as is the suppression of delta and REM sleep. Barbiturates cause REM rebound following abrupt discontinuation. Tolerance occurs, leading to decreased efficacy in inducing and maintaining sleep over 14 consecutive nights of use at the same dosage. Barbiturates

Table 1
Representative Barbiturate and Nonbarbiturate Hypnotic Drugs

Class	Generic/Trade names	Dosage Range
Barbiturates		
	Pentobarbital/Nembutal	100-200 mg
	Secobarbital/Seconal	100-200 mg
Nonbarbiturates		
	Chloral hydrate	500 mg
	Ethchlorvynol/Placidyl	500 mg
	Glutethimide	250-500 mg
	Paraldehyde	10-30 mL
Antihistamines		
	Diphenhydramine/Benadryl Sominex-2	25-100 mg
	Doxylamine/Unisom	25-100 mg

are implicated in a number of drug-drug interactions since they can induce hepatic microsomal enzyme systems.

The nonbarbiturate hypnotics were originally believed to be superior to barbiturates due to their dissimilar chemical structure. With exception of chloral hydrate, they possess many of the same disadvantages of barbiturates, and have some additional ones as well. To illustrate, methaqualone was shown to have a greater abuse potential than barbiturates, and DEA eventually placed it in schedule I (high abuse potential with no legitimate therapeutic use). It is no longer available commercially. In overdose glutethimide not only causes intense CNS depression, but also has strong antichlinergic toxicity which may be even more challenging to treat. It has been placed in schedule II by DEA. The other members of this group have been replaced by benzodiazepine derivatives.

Chloral Hydrate. The only nonbarbiturate hypnotic that is still prescribed to any extent is chloral hydrate. Its hypnotic action appears within 30 minutes. Chloral hydrate is converted by hepatic alcohol dehydrogenase to trichloroethanol, an active metabolite with a half-life of 4 to 14 hours.

Chloral hydrate may potentiate the activity of warfarin and other drugs with high plasma protein binding affinity by competing for their binding sites. It can cause intense gastrointestinal irritation in some individuals. Its effects are potentiated by alcohol, and this forms the basis for the legendary *knockout drops* action of a *Mickey Finn.*

Antihistamines. Diphenhydramine and doxylamine are ingredients of OTC sleep aid products. The drugs are useful because of their sedative side effect.

The sleep inducing effect of 50 mg diphenhydramine is reported to be equivalent to 60 mg of pentobarbital. Increasing its dose does not result in increased effectiveness. However, increasing the dose does enhance anticholinergic side effects which, in turn, can be particularly bothersome to elderly individuals.

Many elderly persons are plagued by constipation, blurred vision and dry mouth, and they are especially sensitive to the central anticholinergic effects of confusion, disorientation and impaired short-term memory. Consequently, consumers should be aware of these side effects, as well as the potential for additive depressant and anticholinergic effects from

other antihistamine-containing OTC products such as hayfever remedies and cough suppressants.

Precautions With Hypnotics

Drug dependence with sedative and hypnotic drug use has been recognized for more than a century. Patients at greatest risk are those taking a short-acting barbiturate such as pentobarbital, or a short-acting nonbarbiturate hypnotic, such as glutethimide.

The term *dependence* is rather vague and subjective, and its interpretation is left to the discretion of the Director of DEA. It means that the drug has the potential for abuse when used for nonmedical purposes, and that there is an overwhelming physical and physiologic desire for the drug. Dependence also means that the person will experience withdrawal symptoms when the drug is discontinued.

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SEARLE

Tolerance develops when the person takes larger doses to get the same results experienced with initial therapy. Users develop an overwhelming desire to continue taking the drug and to obtain it by whatever means needed. They acquire a physiologic need for the effects the drug exerts in the brain.

Sudden cessation of hypnotics in dependent persons leads to withdrawal symptoms such as anxiety, physical discomfort, insomnia, abdominal cramps, nausea, vomiting, diarrhea, profuse sweating, tremors, hallucinations, and seizures.

Physicians and patients may believe that all hypnotic drugs should be avoided because of the danger of developing dependence. To place this concept into proper perspective, if hypnotic drugs are used appropriately (i.e., for short periods and at low doses), the risk for dependence is low.

Another concern with the use of hypnotics, originally seen with barbiturates, is *drug withdrawal insomnia*. This condition is associated with abrupt drug discontinuation after long-term use. Following chronic REM suppression induced by barbiturates, abrupt cessation leads to REM rebound, amounting to as much as 40 percent of total sleep time. This phenomenon is accompanied by extremely intense and horrifying dreams, and generally disrupted sleep. It can happen in patients taking benzodiazepines, but less often than with barbiturates. Drug withdrawal insomnia can be modified by gradually tapering the dosage, or switching to an equivalent amount of a longer-acting hypnotic. Educating patients about the possibility of temporary increased dreaming and decreased quality of sleep should help them better tolerate discontinuation of their hypnotic.

Rebound insomnia is associated with abrupt discontinuation of short-acting hypnotics. This is characterized by worsening of the quality of sleep, more than it was before the patient started taking the drug. The incidence of the phenomenon is unclear and rebound insomnia rarely lasts beyond a single night. Gradual tapering of the drug, rather than abrupt withdrawal, may lessen the severity of symptoms.

Elderly persons should be especially cautious about taking hypnotic drugs. Elderly individuals as a group tend to eliminate drugs more slowly than younger adults. They may be more sensitive to a given blood concentration, and are more prone to develop cognitive and motor impairment with usual adult doses of hypnotic drugs.

The elderly are more likely to be taking additional drugs that can interfere with the normal pharmacodynamics and pharmacokinetics of hypnotic drugs. Ataxia and memory loss may not be detected for several weeks

following onset of therapy. For these, and other reasons, hypnotic therapy must be closely monitored in elderly individuals.

General Guidelines to Hypnotic Drug Use

Thorough assessment of the patient, including identification of underlying causative factors should be undertaken before treating insomnia. Once the decision is reached to treat insomnia with hypnotics, several parameters play a major role in choosing the most appropriate drug. These include the onset of action and duration of effect. Consideration is given to single and multiple dosing, and the patient's past history of response to other medications.

The risk of falls and fractures increases in patients who take hypnotic agents. Hypnotics raise the arousal threshold which is advantageous in overcoming insomnia. However, this can be a disadvantage if patients fail to respond to fire alarms, a crying infant, pain, a full bladder, etc. Hypnotics should be avoided in patients who use alcohol or other CNS depressants, pregnant women, persons with sleep apnea, and others for whom alert performance is mandatory (e.g., firemen, pilots, surgeons, pharmacists).

No hypnotic is ideal for every patient and not all insomniacs should be treated with hypnotics. Hypnotics should only be used to treat transient, short-term insomnia, or for a brief period of time in chronic insomnia while a physician is determining its cause. Hypnotic-induced sleep is unnatural in some respects; thus, a measure of efficacy is to determine whether daytime performance is compromised the day after the drug is used.

The philosophy of whether or not to use hypnotics in chronic insomnia is complex. There is little data regarding their efficacy and safety when taken for periods longer than several weeks. Moreover, there is no conclusive evidence to substantiate that chronic use will produce long-lasting, objective improvement in sleep, and enhance the patient's daytime functioning. Many patients with chronic insomnia also suffer from an underlying psychiatric condition. Or, they have a drug or alcohol dependence, sleep apnea, or delayed sleep phase syndrome.

Treatment specific for the underlying disorder and nonpharmacologic approaches should be tried first. If medical and psychiatric disorders have been ruled out and nonpharmacologic approaches have failed to bring relief, referral to a sleep-disorders center is appropriate. If a thorough sleep evaluation has been undertaken and a hypnotic has been prescribed for treating chronic insomnia, the patient should be assessed frequently for improvement in both sleep and daytime functioning. This will help assure that the therapeutic effect of the drug is being maintained at the prescribed dose and that the patient is in compliance with recommended dosing frequency. The reason for this is that chronic use of hypnotics carries an enhanced risk for dependence, tolerance with resulting escalation of dosage, and difficult withdrawal from the medication.

Patients should be provided with information about the importance of short-term use of hypnotics, the possibility of morning hangover resulting in daytime sedation and impairment, problems associated with concomitant use with other CNS depressants, and a listing of the risks of tolerance and dependence if the medication is used for too long and/or at excessively high doses. When hypnotics are prescribed for use over extended periods of time, it may be helpful to skip a dose or two once in awhile (e.g., every Friday, or every Friday and Saturday). This concept of drug holidays allows the patient to assess whether the drug is still needed. It can also lessen development of tolerance.

Overview

While some believe that hypnotics are misused, most studies show that the majority of patients on a hypnotic medication take it as instructed and not for excessive periods of time. Table 2 summarizes the patterns of prescription hypnotic drug use. In the study, 74 percent of patients took their medication for less than two weeks of consecutive use. Fifty-four percent took hypnotic medication for only one or two consecutive nights.

Patient Advice for CNS Depressant/ Sedative Drugs

- Why compliance is important:

If you have been taking medication for long periods of time, do NOT stop taking your medicine without consulting your doctor. It may be best to gradually reduce the dosage.

- Take this medicine with one-half to one full glass of water or other liquid at least 15 minutes before going to bed to assure that it will be effective by bedtime. The dose can be followed by a light snack.
- The CNS depressant activity of this medication is potentiated by alcohol. Do not drink alcoholic beverages while taking this medication.
- Some people experience disturbed sleep for 1 or 2 days after discontinuing this medication. This should go away. If it continues, contact your doctor.

Table 2
Use of Prescribed Hypnotic Drugs

Period of Drug Use	Percent of Total Users of Hypnotics
1-2 days	54
3-13 days	20
2 or 3 weeks	4
1-3 months	6
4-11 months	6
>12 months	10

Arch. Gen. Psychiatry 42:225, 1985

- This medicine may cause drowsiness (hangover) in the morning. Make sure you are alert before driving.

CORRESPONDENCE COURSE QUIZ

Patient Counseling on Hypnotics
Part I: General Guidelines

1. Persons taking which type of barbiturate are at greater risk for developing dependency?
   a. Long-acting
   b. Short-acting

2. All of the following statements about barbiturates are true EXCEPT:
   a. they have narrow margins of safety.
   b. they suppress delta and REM sleep.
   c. they inhibit hepatic microsomal enzymes.
   d. tolerance occurs, leading to decreased efficacy in inducing and maintaining sleep.

3. Barbiturates are more likely to cause death in overdose than are the benzodiazepines because barbiturates cause a higher degree of:
   a. cardiac damage.
   b. kidney malfunction.
   c. liver toxicity.
   d. respiratory depression.

4. To be maximally effective, hypnotic drugs should be:
   a. rapidly absorbed.
   b. slowly absorbed.

5. The newer class of drugs that seems to be nearly ideal hypnotics is the:
   a. thiothymidines.
   b. benzothymidines.
   c. phenazopyridines.
   d. imidazopyridines.

6. The drugs referred to in question #5 have all of the following properties EXCEPT:
   a. low abuse potential.
   b. rapid onset of action.
   c. long duration of action.

7. Rebound insomnia is associated with abrupt discontinuance of:
   a. long-acting barbiturates.
   b. short-acting barbiturates.

8. In the study referred to in this lesson, the largest percentage of patients taking hypnotic medications used them:
   a. 1-2 days.
   b. 3-13 days.
   c. 2-3 weeks.
   d. 1-3 months.

9. The ideal elimination half-life for a hypnotic for a patient who has difficultly falling asleep is:
   a. 1-2 hours.
   b. 3-4 hours.
   c. 5-7 hours.
   d. 8-12 hours.

10. Which of the following hypnotics has been placed in schedule II by DEA?
   a. Chloral hydrate
   b. Diazepam
   c. Glutethimide
   d. Methaqualone

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CONTINUING PHARMACEUTICAL EDUCATION (CPE)

Patient Counseling on Hypnotics
Part I: General Guidelines

- Attach a mailing label from *The Carolina Journal of Pharmacy* or print your name and address and mail with payment of $7.00 to CE Test, NCPhA, P.O. Box 151, Chapel Hill, NC 27514–0151
- Completed answer sheets may be returned on a monthly or less frequent basis for grading. Quizzes not accompanied by payment will not be processed and will be discarded.
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Please circle correct answer

1. a b	4. a b	7. a b	
2. a b c d	5. a b c d	8. a b c d	
3. a b c d	6. a b c	9. a b c d	10. a b c d

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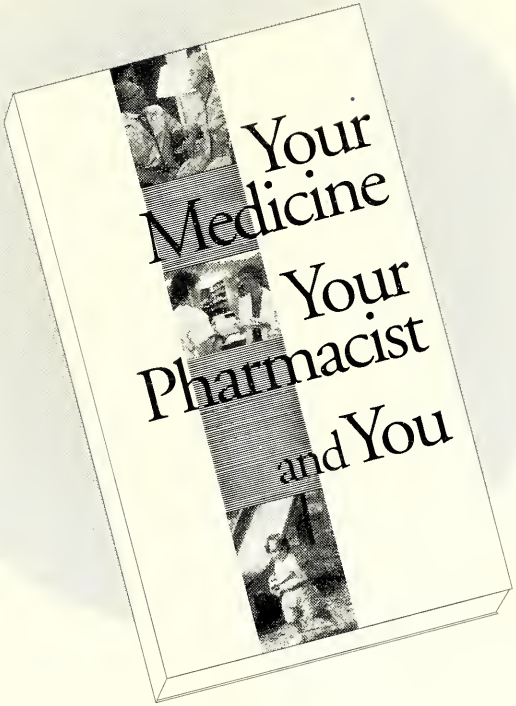

Here's A Coming Attraction That Should Attract You

It's called "Your Medicine, Your Pharmacist and You," and it's a new, 16-minute video that will give everyone who sees it a much clearer picture of the important role pharmacists play as key members of the health care team.

Produced as a public education project for the American Pharmaceutical Association by Glaxo Inc., "Your Medicine, Your Pharmacist and You" is available at no cost for showing to civic, educational, senior citizen and other groups.

From the White House to the state house, health care will be one of the hottest topics in the news this year. So why not take advantage of the timeliness of the topic to show "Your Medicine, Your Pharmacist and You" to as many audiences as possible in your community in the coming months.

It features officers of the American Pharmaceutical Association such as Executive Vice President John Gans, Pharm.D., community pharmacists, and other major voices in the health care community.

So order your copy of "Your Medicine, Your Pharmacist and You" today from your state pharmacy association, or from APhA by calling 1-800-237-APHA. It comes with a complete presenter's guide which includes sample news releases, introduction, and a directory of civic organizations with chapters or affiliates in your community.

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"Your Medicine, Your Pharmacist and You" will give you and your pharmacy increased visibility in your community. It's a coming attraction that should attract you.

Plan a presentation now.

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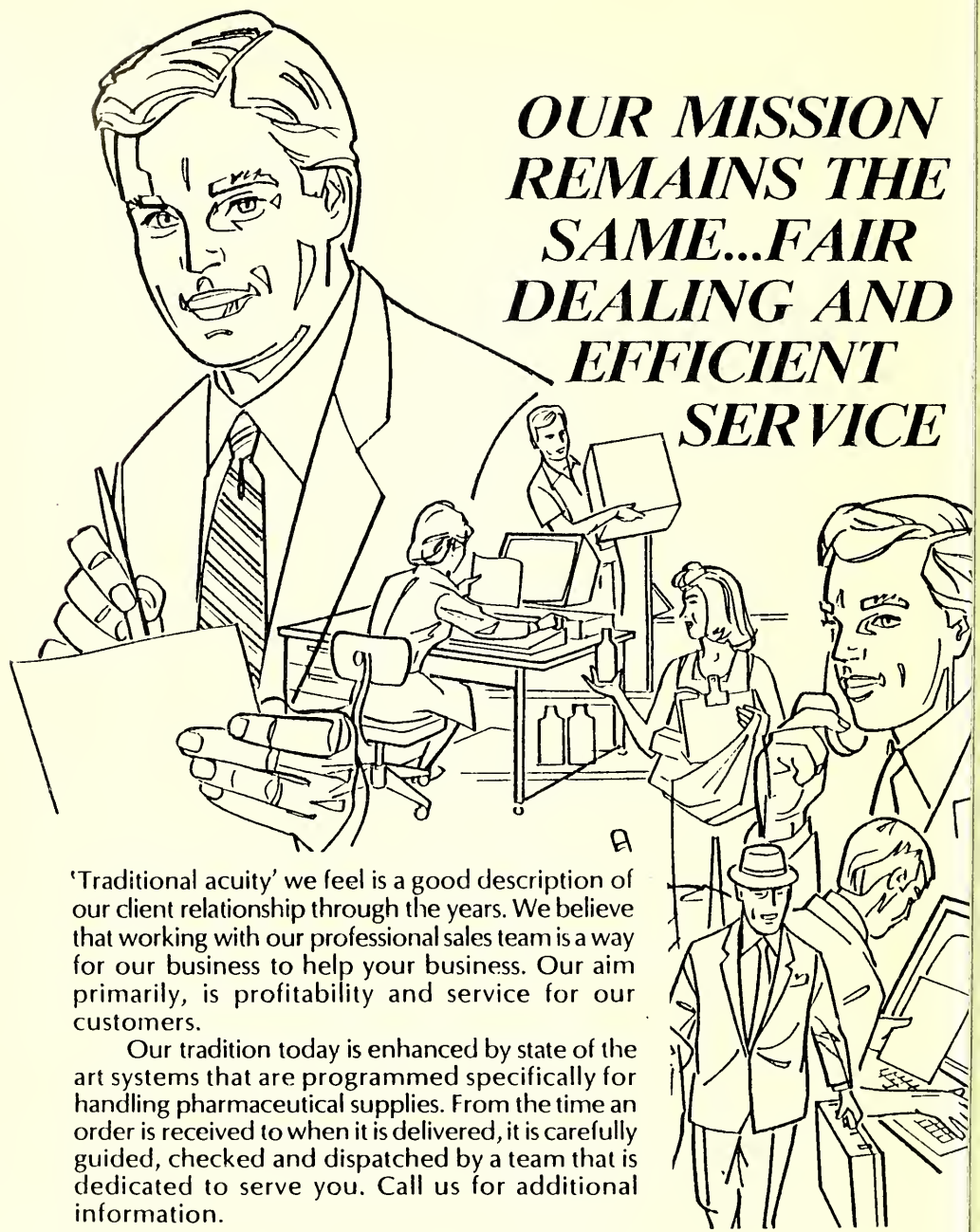

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